



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Biology
Maximum Marks - 70

General Instructions:

- All questions are compulsory.
- The question paper has five sections and 33 questions.
- Section-A has 16 questions of 1 mark each; Section-B has 5 questions of 2 marks each; Section-C has 7 questions of 3 marks each; Section-D has 2 case-based questions of 4 marks each; and Section-E has 3 questions of 5 marks each.
- There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- Wherever necessary, neat and properly labeled diagrams should be drawn.

SECTION - A

Q. No. 1 to 12 are multiple choice questions. Only one of the choices is correct. Select and write the correct choice as well as the answer to these questions.

- Which of the following statements describes the difference between placenta and umbilical cord?
 - The placenta secretes hormones whereas the umbilical cord does not.
 - The placenta persists after pregnancy while the umbilical cord is expelled.
 - The placenta is lined with veins and arteries while the umbilical cord is not.
 - The placenta interlocks with foetal tissues whereas the umbilical cord interlocks with the uterine tissue.
- During apomictic seed formation, there is no reduction division and the gametes (both egg cell and the pollen/sperm cells) are diploid. What is the ploidy of the endosperm formed through apomixis?
 - 2n
 - 3n
 - 4n
 - 6n
- Consider the following genetic code:

RNA																					
Base	G	C	U	A	C	G	G	A	G	C	U	U	C	G	G	A	G	C	U	A	G
Codon	Codon 1			Codon 2			Codon 3			Codon 4			Codon 5			Codon 6			Codon 7		
Amino acid	Alanine			Threonine			Glutamate			Leucine			Arginine			Serine			Stop		

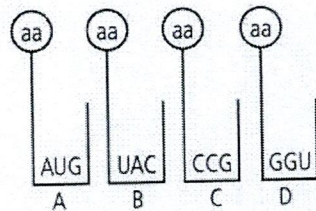
Which among the following would cause a frameshift mutation?

- substitution of A by C in codon 2
- insertion of G after C in codon 4
- insertion of GCU after C in codon 6
- deletion of codon 3, GAG

4. Total number of nucleotide sequences of DNA that codes for a hormone is 1530. The proportion of different bases in the sequence is found to be Adenine = 34%, Guanine = 19%, Cytosine = 23%, Thymine = 19%.

Applying Chargaff's rule, what conclusion can be drawn?

- (a) It is a double stranded circular DNA.
 - (b) It is a single stranded DNA coiled on Histones.
 - (b) It is a double stranded linear DNA.
 - (c) It is a single stranded DNA.
5. What is the MINIMUM possibility of a dominant trait being expressed in the offspring after a test cross?
- (a) 25%
 - (b) 50%
 - (c) 75%
 - (d) 100%
6. Find the sequence of binding of the following aminoacyl tRNA complexes during translation to mRNA transcribed by a DNA segment having the base sequences 3 'TACATGGGTCCG5'.



Choose the answer showing the correct order of alphabets.

- (a) C, D, B, A
 - (b) A, B, D, C
 - (c) D, C, A, B
 - (d) B, A, D, C
7. In a cross between pea plants having round green seeds (RRGG) and wrinkled yellow seeds (rrgg), what percentage of eggs will carry both the round and green alleles for the F₂ generation?
- (a) 9%
 - (b) 93%
 - (c) 64%
 - (d) 25%
8. Arun thinks that identifying the exact mRNA sequence from the protein sequence is difficult. Is he correct and why?
- (a) No, as the genetic code is universal.
 - (b) Yes, as the genetic code is degenerate.
 - (c) No, as the mRNA is translated into a protein sequence.
 - (d) Yes, as the mRNA contains introns which are non-coding sequences.
9. Industrial production of which of these products can be negatively affected by the presence of *Saccharomyces cerevisiae*?
- (a) Beer
 - (b) Wine
 - (c) Fruit juice
 - (d) Wheat bread

10. The common ancestor of mosses and tracheophytes are
 (a) *Psilophyton*
 (b) Ferns
 (c) Chlorophyte ancestor
 (d) None of these
11. The role of DNA ligase in the construction of a recombinant DNA molecule is
 (a) Formation of phosphodiester bond between two DNA fragments
 (b) Formation of hydrogen bonds between sticky ends of DNA fragments
 (c) Ligation of all purine and pyrimidine bases .
 (d) None of the above
12. Certain micro-organisms such as *Pseudomonas*, *Bacillus*, and *Burkholderia* species are administered in regions in the oceans where accidental oil spills occur. Which of the following enzymes could the above micro-organisms be producing for them to be helpful in the scenario?
 (a) Streptokinases
 (b) Proteases
 (c) Amylases
 (d) Lipases

Question No. 13 to 16 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- a) Both A and R are true and R is the correct explanation of A.
 b) Both A and R are true and R is not the correct explanation of A.
 c) A is true but R is false.
 d) A is false but R is true.

13. **Assertion (A):** Pollen tube germinates through the germ pores in the pollen grains.
Reason(R): Pollen pistil compatibility chemicals help to dissolve sporopollenin for the pollen tube to germinate.
14. **Assertion (A):** Only one strand of DNA is transcribed.
Reason (R): Strands having complementary bases code for the same proteins.
15. **Assertion (A):** For organ transplantation cyclosporin A needs to be injected to the patient.
Reason (R): Cyclosporin A inhibits activation of T-cells and interferons.
16. **Assertion (A):** *E.coli* having pBR322 with DNA insert at BamHI site cannot grow in medium containing tetracycline.
Reason (R): Recognition site for BamHI is present in tet^R region of pBR322.

SECTION – B

17. **Attempt either option A or B.**

A. Polyspermy is an extremely rare condition in which an ovum is fertilised by more than one sperm.

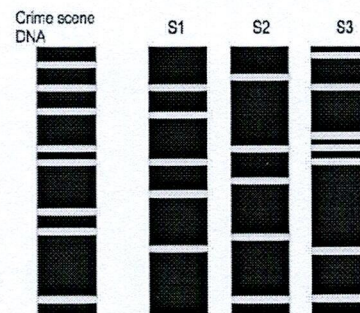
- (a) How many chromosomes will a zygote contain if 2 sperms fertilised an ovum?
 (b) How is polyspermy prevented in humans?

OR

B. What is the number of chromosomes in the following cells of humans?

- (a) Primary oocyte
 (b) Secondary oocyte
 (c) Ootid
 (d) Follicular cells

18. A. In a quiet neighbourhood, a woman had been murdered at her home when her roommates were supposedly away. Her roommates were two twin brothers (S1 and S2) and another woman (S3). The investigating officer found the skin of the murderer under her fingernails. The officer sent the DNA from the skin sample along with DNA from the roommates for DNA profiling. Given below is an image of the bands obtained.



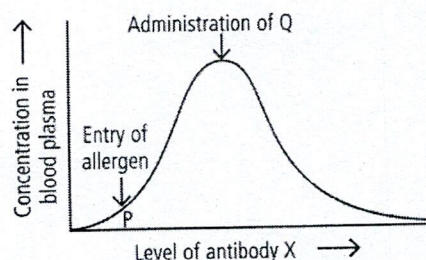
- (a) Who is likely to be the murderer? Give a reason to support your answer.
 (b) S1 and S2 are twin brothers. What can you conclude about them from the image?

OR

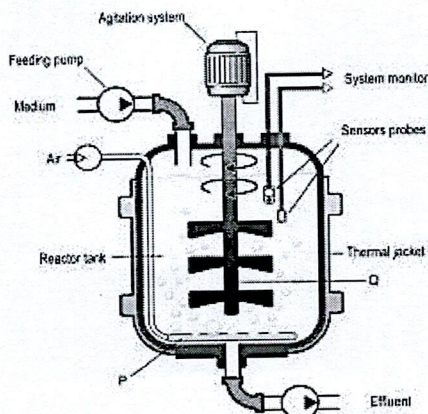
- B. The diagram below shows the coding strand of a length of DNA with its bases indicated.
 TACAATCCCAAATC

- (a) Write down the base sequence of a length of the mature RNA that would be transcribed from this DNA.
 (b) In a eukaryotic cell, the base sequence of the mRNA might be different from the sequence of the hnRNA. Explain why.

19. The given graph shows the concentration of antibody X in blood when an allergen enters the body and when a chemical is given. Based on this answer the following questions:



- (a) With reference to the given graph explain why there is high level of antibody X after point P?
 (b) Name the cells and their secretions responsible for the response after point P.
 (c) Why there is a decrease in the level of antibody X in the blood after point Q?
20. Rati wants to grow a variant of the *Lactobacillus* sp. in a bioreactor. *Lactobacillus* is an anaerobic bacterium commonly used as a starter culture for dairy products. Shown below is a bioreactor she had in her laboratory.



- (a) Identify ONE component that should definitely NOT be present in the reactor to grow the *Lactobacillus* sp. Justify.
 (b) Explain TWO quantities that the sensors in the bioreactor should monitor.

21. Attempt either option A or B.

A.

- (a) If the GPP for a patch of forest is $10 \text{ kg Carbon/m}^2/\text{year}$, and the amount of carbon dioxide leaving the ecosystem is $5 \text{ kg Carbon/m}^2/\text{year}$. Calculate the NPP?
- (b) In the patch of forest mentioned above, how much energy is available at the producer level for herbivore consumption? Assume 1 kg of carbon produces $10,000 \text{ kJ}$ of energy.

(OR)

B.

- (a) Draw a pyramid of number considering a big banyan tree supporting a population of insects, small birds and their predators.
- (b) Construct an ideal pyramid of energy when $1,000,000$ joules of sunlight is available. Label all its trophic levels.

SECTION - C

22. Set up: An area with different species of plants. A colour tracer is added to the pollen of species A.

Observation: The pollen from species A reaches the flowers of species A as well as species B. However, pollination occurs only with the flower of the species A.

- (a) Name and explain the phenomenon underlying this observation.
- (b) How can a farmer prevent any more pollen grains from landing on the stigma?
23. (a) Highlight one aspect by which meiosis during oogenesis differs from regular meiosis.
- (b) Name two hormones that are common to spermatogenesis and oogenesis.
- (c) State the function of hormone identified in (b) in both human male and female.

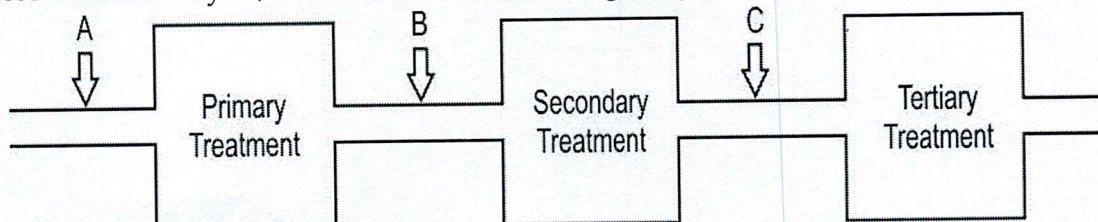
24. Give a reason why:

- (a) The absence of RNA polymerase III can interfere with the translation of nuclear genes.
- (b) Defining a gene present in DNA is complicated, particularly in eukaryotes.
- (c) In bacteria, translation and transcription happen almost simultaneously.

25. The *lac* operon is a polycistronic gene that helps a bacterial cell in metabolising lactose. It consists of an inducer (i) gene that represses the transcription of *lac* genes under certain environmental conditions.

- (a) Why is the *lac* gene called polycistronic?
- (b) What happens to the expression of the *lac* operon when the growth medium is provided with:
- (i) both glucose and lactose
- (ii) only galactose

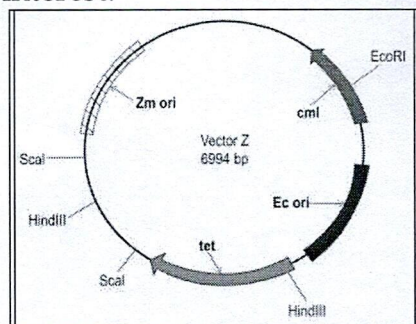
26. In a wastewater treatment plant, sampling was done thrice at various stages in the treatment process indicated by A, B and C in the following diagram.



Each time the sample was taken, its BOD was measured, resulting in the following recorded values: 30 mg/L , 300 mg/L , 250 mg/L

- (a) Determine which of these BOD values correspond to stages A, B, and C in the treatment process.
- (b) Based on (a), justify your answer for each value.

27. Shown below is a cloning vector 'Z' that Ravi wants to use to create a recombinant vector with his gene of interest.



The vector consists of sites for three restriction enzymes - ScaI, HindIII and EcoRI. Restriction sites for the same enzymes are also present in the gene of interest. There are two 'ori' sequences - one allows it to replicate in *Escherichia coli* and another allows replication in *Zymomonasmobilis*. Apart from this, the vector consists of two antibiotic resistance genes - one against tetracycline (tet) and another against chloramphenicol (cml).

- Suggest which of the three restriction enzymes would be suitable for insertion of the gene of interest. Give one advantages of using the enzyme chosen by you.
 - State ONE disadvantage of using the other two restriction enzymes not chosen in (a).
 - What is the advantage of having two 'ori' sequences in the same vector?
28. Mistletoe is a plant that grows on the branches of oak trees. It takes nutrients from the oak tree and can weaken or kill it over time.
- Identify the host and the parasite.
 - Give one point of similarity and difference between the above scenario and predation.

SECTION - D

29. A species of butterflies exhibits a range of wing colours. Butterflies with extremely bright wing colours attract predators easily as compared to the ones with very dull wing colours. Butterflies with very dull wing colours fail to attract mates as compared to the ones with bright wing colours. Butterflies with intermediate wing colours have the best chance of both avoiding predators and finding mates.
- Which type of natural selection does this phenomenon exemplify?
 - A few years later, the rise in industries and pollution, causes the habitat to become darker. How would it affect the survival of the different kinds of butterflies belonging to this species? Which type of natural selection does this phenomenon exemplify?

Attempt either subpart C or D.

- In a specific region where this species is prevalent, a mutation in its population leads to butterflies with a shade of wing colours brighter than the existing shades. How would the long-term survivability of this variant be?

OR

- Will this mutation have an advantage to the butterfly population? Justify.

30. Two patients - X and Y, who had recently consumed drugs, were brought to a rehabilitation centre. While it is established that each of them consumed either morphine or cocaine, their specific drug consumption remained undisclosed. During the mandatory tests, X exhibited heightened alertness with bouts of hallucinations while Y appeared drowsy. Further, the resting heart rate of X was high and that of Y was slower than normal.

- (a) Based on these observations, identify the drug that each patient is likely to have consumed.
 (b) Which category of drugs does each drug identified in (a) belong to?

Attempt either subpart C or D.

- (c) Mention any two ways in which society's overall well-being is likely to get affected by the misuse of such drugs.

OR

- (d) What are the long-term physical and mental effects if consumption of the drugs is continued?

SECTION - E

31. **Attempt either option A or B.**

A. A couple had unprotected intercourse.

- (a) Which are the two possible emergency contraceptives that can be used to avoid pregnancy in such a case?
 (b) What is the basic principle of each of these?
 (c) Will these contraceptive devices provide protection to the couple from STDs as well? Justify your answer.
 (d) Removal of gonads cannot be considered as a contraceptive option. Justify.

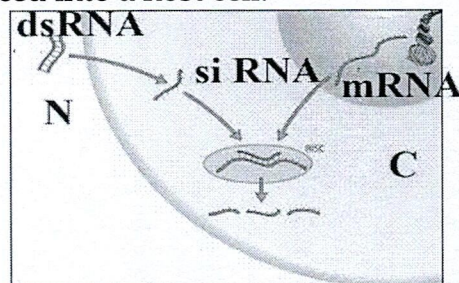
OR

B. Give a reason for each of the following:

- (a) The exine of pollen grains is very hard.
 (b) The endosperm of flowering plants is triploid.
 (c) A pollen grain landing on a stigma does not ensure fertilisation.
 (d) Sexual reproduction brings in variation.
 (e) Seeds of hybrid varieties need to be produced afresh every year.

32. **Attempt either option A or B.**

A. Given below is an image showing a special situation in which a dsRNA from a source has been introduced into a host cell.



N - Nematode specific gene
C- Cell of Tobacco plant

- (a) How can dsRNA of nematode specific gene be introduced into the host cell as shown in the figure given above?
 (b) What can be the source of dsRNA for this process?
 (c) What will be the impact of this interaction between dsRNA and mRNA on the mRNA and entire cellular machinery of host plant?
 (d) What is the economic importance of the technique shown in the above figure? Justify your statement.

OR

B. When two different varieties- a conventional variety and a GM crop of corn crop were grown in a field, it was noticed that corn borers attacked only the conventional variety.

- (a) Suggest a suitable treatment using genetic engineering approach for damage control in the conventional variety. Justify your approach.

- (b) Name the gene associated for development of GM crop for the control of this pest.
Explain its impact on the insect pest?
- (c) How does it not harm the source from which it is taken?

33. *Attempt either option A or B.*

A.

- (a) Explain the four major causes of loss of biodiversity.
- (b) There was loss of biodiversity in an ecosystem due to a new construction project in that area. What would be its impact on the ecosystem? State any two.

OR

B.

- (a) Which bio conservation strategy is used when the endangered species are removed from the unsafe or threatened habitat and placed under human care? Explain. How is this strategy different from the other strategy of bio-conservation?
- (b) How does the rivet popper hypothesis explain the importance of producers in the stability of the ecosystem?
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Psychology
Maximum Marks- 70

General instructions

- All questions are compulsory except where internal choice has been given. Question Nos. 1 -15 in Section A carry 1 mark each.
- You are expected to answer them as directed.
- Question Nos. 16-21 in Section B are very short answer type-I questions carrying 2 marks each. Answer to each question should not exceed 40 words.
- Question Nos. 22-24 in Section C are short answer type-II questions carrying 3 marks each. Answer to each question should not exceed 80 words.
- Question Nos. 25 – 28 in Section D are long answer type – I questions carrying 4 marks each. Answer to each question should not exceed 200 words.
- Question Nos. 29-30 in Section E are long answer type – II questions carrying 6 marks each. Answer to each question should not exceed 300 words.
- Question Nos. 31 – 34 in Section F are based on two cases given. Answer to each 1 mark question should not exceed 20 words. Answer to each 2 marks question should not exceed 30 words.

SECTION -A

Objective question.

1. Anxiety disorders are linked to low activity of the neurotransmitters.....
 - a. Dopamine
 - b. GABA
 - c. Serotonin
 - d. B cell
2. Emphasized psychological conflicts and disturbed interpersonal relationship as causes of psychological disorder.
 - a. St. Augustine
 - b. Plato
 - c. Galen
 - d. Johann weyer
3. Repetitive speech, communication problems and a strong desire for routine are typical symptoms of.....
 - a. ODD
 - b. ADHD
 - c. Autism spectrum disorder
 - d. PTSD
4. placed emphasis on providing community care for recovered mentally ill individuals .
 - a. Faith And dogma
 - b. Renaissance period
 - c. Johann weyer
 - d. Deinstitutionalisation

5. Malvika's mother ignores when she throws tantrums if asked to keep her room neat and tidy. However she appreciates malvika when she arrange her toy after play time. Which of the following method is being used here by her mother?
 - a. Negative reinforcement
 - b. Positive reinforcement
 - c. Differential conditioning
 - d. Token economy
6. Anuj has been suffering form PTSD symptoms for last 2 years. Alone with the psychotherapy her therapist recommends some alternative therapy also. Which type of alternative therapy is the most suitable for her.
 - a. Kundalini yoga
 - b. Vipassana meditation
 - c. Sudarshan kriya yoga
 - d. Herbal remedy
7. Learning by observing other, is used through a process of rewarding small changes in the behaviour.....
 - a. Vicarious learning
 - b. Modelling
 - c. Token economy
 - d. Aversive conditioning
8. Sahana is in a rehabilitation Centre. The aim of rehabilitation is to empower her to become self sufficient. Is given to her, wherein she is helped to gain skills necessary to Undertake productive employment.
 - a. Cognitive retraining
 - b. Social skills training
 - c. Vocational training
 - d. Occupational therapy
9. Shelly thinks that since there are some rumours being spared about a particular community, there must be some truth in it. The community that is being blamed is the minority in her country. This thinking is due to
 - a. Scapegoating
 - b. In group bias
 - c. Kernel of truth
 - d. Self fulfilling prophecy
10. 'my best friend leaves near my house and send I meet her everyday she is close to me' which condition of group formation is reflected through this line?
 - a. Similarity
 - b. Proximity
 - c. Status
 - d. Security

Directions (qns no. 11,12 ,13) each of these questions contains two statements, Assertion (A) and Reason (R) . Each of these questions also has four alternative choices, any one of which is the correct answer. You have to select one of the codes (a)(b)(c)(d) given below.

11. **Assertion (A)** people from groups with people who are similar to them in their view points and interests
Reason (R) people prefer consistency and like relationship that are Consistent
 - a. Both A and R are true and R is the correct explanation of A.
 - b. Both A&R are true but R is not the correct explanation of A.
 - c. A is true but R is false.
 - d. A is false and R is true.

12. **Assertion (A)** according to 'Two step concept' two elements of an attitude system must be in the same direction.

Reason (R) an attitude system requires logical consistency else it will lead to 'mental discomfort'.

- a. Both A&R are true and R is the correct explanation of A
- b. Both A&R true but R is not the correct explanation of A
- c. A true but R is false.
- d. A is false and R is true .

13. **Assertion (A)** if your class teacher embarrasses you for asking a question in class, it is less likely that you would ask questions in class in future.

Reason (R) negative reinforcement reduce the occurrence of a behaviour.

- a. Both A &R are true and R is the correct explanation of A.
- b. Both A&R are true but R is not the correct explanation of A.
- c. A true but R false.
- d. A false but R true.

14. **Assertion (A)** A classification of disorders consists of a list of categories of specific psychological disorders grouped into various classes on the basis of some shared characteristics.

Reason(R) classifications are useful because they enable user like psychologist, psychiatrist and social workers to communicate with each others about the disorder that help in understanding the causes of psychological disorders and the process involved in the development and maintenance

- a. Both A &R are true and R is the correct explanation of A.
- b. Both A&R are true but R is not the correct explanation of A.
- c. A true but R false
- d. A false but R true.

15. During the covid-19 pandemic, our society has witnessed many deplorable instances of discrimination, with prejudice. if you devise a plan to handle prejudice, it will include.....

- a. Minimising opportunities for learning prejudice
- b. Changing such attitudes
- c. De-emphasising a narrow social identity based on the in group
- d. All of the above

SECTION-B

Very short question.

- 16. Rehana on being left alone becomes very upset, overly clingy, has problems falling asleep and does not want to go to school. Identify the disorder and explain.
- 17. Explain bipolar mood disorder.
- 18. Explain negative reinforcement and aversive conditioning techniques of behaviour modification with examples.
- 19. What is the meaning of logotherapy?
- 20. What is social facilitation?
- 21. Differential between an audience and a mob.

SECTION -C

Short Type question

- 22. Nikhil is a 14 years old male with a history of intimidating, bullying and physical harming others, aggressive and destructive behaviour, laying skipping school, running away from home since a very young age. Identify the disorder and explain its feature.
- 23. Discuss the various techniques used in behaviour therapy to eliminate faulty behaviour.

24. Mary found herself very lonely when she joined a new college, but soon felt ease when she made friends and become a member of a 'hobby group' too. With the help of this example, discuss the conditions that lead to group formation.

OR

Is behaviour always a reflection of one's attitude? Explain with the help of suitable examples?

SECTION -D

Long type question-1

25. "Ankita is a 18 years old girl who believe that human Misery is caused by the external events over which one does not have any control and feels that she is an ugly girl who is not wanted and loved by anyone" which therapy do you think would hear the most in such condition.
26. There are many instance to show how prejudice can lead hatred and discrimination. Discuss any four sources leading to these prejudice.
27. What are the factors that influence the formation of an attitude?
28. A teacher 'X' found at the project that she/he gave to a group of students, when submitted to her/him, lacked quality as compared to the ones submitted by individual students. What is the reason for this phenomenon and how can it be reduced? Discuss.

OR

What you understand by the term "dissociation"? Describe the silent feature of anyone from of dissociative disorder.

SECTION -E

Long type question- 2

29. Anxiety has been called the "butterflies in the stomach feeling". At what stage does anxiety become a disorder? Discuss its type.
30. Describe the nature scope and goal of psychotherapy. Highlight the importance of therapeutic relationship in psychotherapy.

OR

What are the factors that contribute to healing in psychotherapy? Enumerate some of the alternative therapies.

SECTION -F

Case Based questions 1

Read the case and answer the question that follow .

In contemporary society, we see examples of group polarization growing day by day, in terms of politics, sports team, and civic Pride. Also known as the normative influence, this theory of group polarization states that people often change their opinions when in a group in order to fit in or to be accepted and to be looked upon more favourably. As Outsiders, new members of the group may promote a more extreme view of a topic than the rest of the group previously had. That can push the entire group towards the more extreme viewpoints or the stance that best correlates with the views of the group leader. Sometimes bad decisions are made by a group which are not in the group's interest because some of its members don't want to express opinions or suggest new ideas that some in the group may disagree with.

31. What is group polarization?
32. Extreme and bad discussions are made by the group which are not in the groups interest what is the process called? Who discovered this process?

Case Based questions 2

Read the case and answer the question that follow .

Mr. Shyam and his group has won the election from his constituency against Mr. Ram and his group. Mr. Ram group is in minority and is too weak to defend himself. Often Mr. Shyam place The blame on Mr. Ram for all the social, economic and political problems. Mr. Ram is too weak to defend himself against such accusations. Also Mr. Shyam express frustration and aggression and has developed negative attitude towards Mr. Ram and is very prejudiced against him

33. Name the phenomenon which is being talked about in the above case.

34. Define prejudice . What are the other sources of prejudice ?



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Computer Science
Maximum Marks- 70

General Instructions:

- (i) This question paper contains 37 questions.
- (ii) All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- (iii) The paper is divided into 5 Sections- A, B, C, D and E.
- (iv) Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- (v) Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- (vi) Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- (vii) Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- (viii) Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- (ix) All programming questions are to be answered using Python Language only.
- (x) In case of MCQ, text of the correct answer should also be written.

SECTION-A

1.	State True and False In Python, a Syntax Error occurs when there is an error in the structure of the code.	1
2.	What will be the output of the following Python code? <pre>print(0.2+0.4==0.6)</pre> (a) True (b) False (c) Error (d) Depends on machine	1
3.	What is the output of the following expression? <pre>x="Mera Bharat Mahan"</pre> <pre>print(x.split("a"))</pre> (a) ['Mer', ' Bh', 'r', 't M', 'h', 'n'] (b) ['Mera', 'Bha', 'rat M', 'ah', 'an'] (c) Error (d) ['Mera', 'Bharat', 'Mahan']	1
4.	What is the output of the following code: <pre>x=3</pre> <pre>y=2</pre> <pre>print(x/y)</pre>	1
5.	What is the output of "Ranchi Jharkhand"[2:100].lower() ?	1

6.	<p>What will be the output of the following command in Python?</p> <pre>print(r"\nJayesh")</pre> <p>(a) \nJayesh (b) new line and Jayesh (c) Jayesh (d) Error</p>	1
7.	<p>What will be the output of the following code?</p> <pre>txt="How are you, Sunil?" x=txt.find(",") y=txt.find("?") print(txt[x+2:y])</pre>	1
8.	<p>Which of the following statements opens a binary file "Product.dat" for writing and reading</p> <p>(a) f=open("Product.dat","w") (b) f=openfile("product.dat","wb") (c) f=open("product.dat","wb+") (d) f=open("product.dat","r")</p>	1
9.	<p>Given the following code. What should be filled in the missing blank for proper execution of the code.</p> <pre>import random def automatic(): # Function to return a random number between 0 - 1 s=random. _____ return s</pre> <p>(a) randint(0,100) (b) random() (c) shuffle() (d) choice</p>	1
10.	<p>In the statement, select * from product group by Type _____count(*)>3; The blank can be</p> <p>(a) Where (b) Order (c) Having (d) descending</p>	1
11.	<p>To delete all the records from a table "product", the command will be</p> <p>(a) Del from product; (b) Delete from product; (c) Remove All from Product; (d) Delete All;</p>	1
12.	<p>Which transmission media is commonly used in transporting multi-channel television signals in cities?</p> <p>(a) Optical fibre (b) Co-axial cable (c) Ethernet Cable (d) None of thee</p>	1`
13.	<p>Bluetooth transmission can carry data within</p> <p>(a) A city (b) A country (c) A state (d) A room</p>	1
14.	<p>What is the output of the following code?</p> <pre>City="Kolkata" print(city.upper()[-2:1:-1])</pre> <p>(a) TAKL (b) Kata (c) Takl (d) None of these</p>	1

15.	Fill in the missing blank in the code given to read the contents of the file and create a list of words from it. fobj=open("notes.txt","r") data=fobj.read() lstwords= _____ fobj.close()	1
16.	Consider the following python statement: f=open("content.txt") Which of the following is an invalid statement in Python? (a) f.seek(1,0) (b) f.seek(0,1) (c) f.seek(0,-1) (d) f.seek(0,2)	1
17.	Fill in the blank: _____ is a set of rules that needs to be followed by the communication parties in order to have a successful and reliable data communication over a network.	1
18.	Which of the following is not a DDL command in SQL? (a) Alter (b) Drop (c) Update (d) Create	1
19.	Observe the given Python code carefully: a=30 def display(a): b=30 a=a+b display(50) print(a) select the correct output from the given options: (a) 10 (b) 20 (c) 30 (d) Error	1
20.	Assertion (A): A Python function that accepts parameters can be called without any parameters. Reason (R): Functions can carry default values that are used, whenever values are not received from calling function. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true and R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	1
21.	Assertion (A): sum(), count(), max(), min() are all aggregate functions. Reason (R): They work on single record. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true and R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	1

SECTION-B

22.	(a) Suppose there is a list such that: L=[2,3,4]. If we want to print this list in reverse order with an output of L=[4,3,2], which function/method should be used? (b) Which keyword parameter of sort () can sort a list in descending order.	2
23.	Given Empdict={"Eno":"E001", "Ename":"jack", "Dept":"Accts"} (a) Write the statement to add the salary as 15000 into the dictionary. (b) Write a statement to remove the key: value pair of "Dept"	2

OR

Nabojet has created a dictionary: "Electronics", storing data of electronic products. Write a user defined function PushItems() with the dictionary as parameter. The function checks the details in the dictionary and pushes only those items into a stack whose price is above 1000.

Dictionary Structure:

Electronics= {'D1': ['LCD', 1500], 'D2': ['CD Player', 4000],}

31. Consider the following table PREPAID.

S_No	C_Name	Model	Connection
1	Sita	Nokia	Airtel
2	Geeta	Samsung	Idea
3	Ritesh	LG	BSNL
4	Jayant	Micromax	Reliance

Write MySQL commands for the statements given below:

- (a)
- (i) Write a command so that the Model column does not take NULL values.
 - (ii) Display all records of table Prepaid.
 - (iii) Delete a column name Model.

OR

- (b)
- (i) Delete a customer record where connection type is BSNL.
 - (ii) Add a new column Ctype varchar(5).
 - (iii) Assign the S_No field as the primary key.

SECTION-D

32. (A) (i) When is TypeError exception raised in Python?

- (ii) Give an example code to handle TypeError. The code should display the message "Type mismatch error" in case of TypeError exception, and the message "An unexpected error occurred" in case of any other exception.

OR

(B) (i) When is IndexError exception raised in Python?

- (ii) Give an example code to handle IndexError. The code should display the message "Index out of range" in case of IndexError exception, and the message "An unexpected error occurred" in case of any other exception.

33.	<p>A CSV file "Bikes.csv" stores details of bikes with their bike names, brand names and cost.</p> <p>Record structure of "Bikes.csv"</p> <p>BID Bname Brand Cost</p> <p>Write a program using two functions to operate the file data.</p> <p>Putbike() To accept data of more bikes and store them to the file "Bikes.csv".</p> <p>SearchBike(bikeid) To open the file "Bikes.csv" and display details of the bike whose id is supplied as the parameter to the function.</p>	4																																																			
34.	<p>Write query for the questions (i) to (iv) based on the table Employee and Department given below:</p> <p style="text-align: center;">Table: Employee</p> <table><tr><th>EMPID</th><th>NAME</th><th>DOB</th><th>DEPTID</th><th>DESIG</th><th>SALARY</th></tr><tr><td>120</td><td>Alisha</td><td>1978-01-23</td><td>D001</td><td>Manager</td><td>75000</td></tr><tr><td>123</td><td>Nitin</td><td>1977-10-10</td><td>D002</td><td>AO</td><td>59000</td></tr><tr><td>129</td><td>Navjot</td><td>1971-07-12</td><td>D003</td><td>Supervisor</td><td>40000</td></tr><tr><td>130</td><td>Jimmy</td><td>1930-12-30</td><td>D004</td><td>Sales Rep</td><td></td></tr><tr><td>131</td><td>Faiz</td><td>1984-04-06</td><td>D001</td><td>Dep Manager</td><td>65000</td></tr></table> <p style="text-align: center;">Table: Department</p> <table><tr><th>DEPTID</th><th>DEPTNAME</th><th>FLOORNO</th></tr><tr><td>D001</td><td>Personal</td><td>4</td></tr><tr><td>D002</td><td>Admin</td><td>10</td></tr><tr><td>D003</td><td>Production</td><td>1</td></tr><tr><td>D004</td><td>Sales</td><td>3</td></tr></table> <p>(i) To display the average salary of all employees, department wise.</p> <p>(ii) To display name and respective department name of each employee whose salary is more than 50000.</p> <p>(iii) To display the name of employees in alphabetical order whose salary is not known.</p> <p>(iv) To display DEPTID from the table EMPLOYEE without repetition.</p>	EMPID	NAME	DOB	DEPTID	DESIG	SALARY	120	Alisha	1978-01-23	D001	Manager	75000	123	Nitin	1977-10-10	D002	AO	59000	129	Navjot	1971-07-12	D003	Supervisor	40000	130	Jimmy	1930-12-30	D004	Sales Rep		131	Faiz	1984-04-06	D001	Dep Manager	65000	DEPTID	DEPTNAME	FLOORNO	D001	Personal	4	D002	Admin	10	D003	Production	1	D004	Sales	3	4
EMPID	NAME	DOB	DEPTID	DESIG	SALARY																																																
120	Alisha	1978-01-23	D001	Manager	75000																																																
123	Nitin	1977-10-10	D002	AO	59000																																																
129	Navjot	1971-07-12	D003	Supervisor	40000																																																
130	Jimmy	1930-12-30	D004	Sales Rep																																																	
131	Faiz	1984-04-06	D001	Dep Manager	65000																																																
DEPTID	DEPTNAME	FLOORNO																																																			
D001	Personal	4																																																			
D002	Admin	10																																																			
D003	Production	1																																																			
D004	Sales	3																																																			
35.	<p>Write an example code to fetch a single record from a database.</p> <p>Use the following information for connectivity:</p> <p>Database: PythonDB</p> <p>Table: Library</p> <p>Host: localhost</p> <p>UserId: root</p> <p>Password: Library@123</p>	4																																																			

SECTION-E

36.	<p>Sana is the operations head at a logistics company. She needs to manage the records of various transport vehicles. For this, she requires the following information of each vehicle to be stored.</p> <p>Vehicle_ID - Integer</p> <p>Vehicle_Model - String</p> <p>Vehicle_Type - String</p> <p>Distance_Travelled - float (in Kilometers)</p> <p>You, as a programmer working in the company, have been assigned to do this job for Sana.</p> <p>Suggest:</p> <ul style="list-style-type: none">(i) What type of file (text file, CSV file, or binary file) will you suggest to store this data? Give one valid reason to support your answer.(ii) Write a function to input the data of a vehicle and append it to the file that you suggested in part (i) of this question.(iii) Write a function to read the data from the file that you suggested in part (i) of this question and display the details of all those vehicles that have travelled more than 100,000 kilometers.	5
37.	<p>Info corporation has set up its new centre at Gurugram, Haryana for its office and web-based activities. It has 4 blocks of buildings.</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"><p>Info Corporation</p><div style="display: flex; justify-content: space-around; align-items: center;"><div style="border: 1px solid black; padding: 10px; margin: 5px;">Block A</div><div style="border: 1px solid black; padding: 10px; margin: 5px;">BlockC</div></div><div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"><div style="border: 1px solid black; padding: 10px; margin: 5px;">BlockB</div><div style="border: 1px solid black; padding: 10px; margin: 5px;">BlockD</div></div></div>	5

Distance between various blocks is as follows:

A to B	40 m
B to C	120 m
C to D	100 m
A to D	170 m
B to D	150 m
A to C	70 m

Number of Computers in each wing

Block A 25

Block B 50

Block C 125

Block D 10

(a) Suggest and draw the cable layout to efficiently connect various blocks of the building within the Gurugram centre for connecting the devices.

(b) Suggest the placement of the following devices with justification-

i. Hub/ Switch

ii. Repeater

(c) Mention the type of network (PAN/LAN/MAN/WAN) that will be formed if the Gurugram office is connected to its office in South Delhi?

(d) Which fast and very effective wireless transmission medium should preferably be used to connect the head office in South Delhi with the centre in Gurugram?

(e) Suggest the protocol that will be needed for video conferencing solution.



DELHI PUBLIC SCHOOL, RANCHI

PRE-BOARD EXAM-I, 2024-25

Class: XII

Time allowed: 3 Hours

Informatics Practices (065)

Maximum Marks: 70

General Instructions:

- Please check this question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt one
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 4 questions (29 to 32). Each question carries 3 Marks.
- Section D consists of 2 case study type questions (33 to 34). Each question carries 4 Marks.
- Section E consists of 3 questions (35 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In case of MCQ, text of the correct answer should also be written.

Qs No	Section-A (21 x 1 = 21 Marks)	Marks
1]	Say whether the statement is True or False? The dtype attribute of a Series returns the data type of its elements.	[1
2]	Which SQL clause is used to restrict the rows returned by a query? (A) SELECT (B) ORDER BY (C) WHERE (D) GROUP BY	[1
3]	A..... is an electronic device that converts digital data signals into modulated analog signals suitable for transmission over analog telecommunications circuits.	[1
4]	Identify single-row functions of MySQL amongst the following: (A) TRIM() (B) MAX() (C) ROUND (D) Both A & B	[1
5]	In India e-Waste management assumes greater significance because: (A) Generation of own e-Waste (B) Dumping of e-Waste in developing countries (C) Lack of awareness (D) All of these	[1
6]	How can you remove duplicates from a DataFrame based on certain columns? (A) drop_duplicates() (B) unique() (C) distinct() (D) remove()	[1
7]	Which of the following functions is used to create a line chart? (A) plot() (B) line() (C) chart() (D) plotline()	[1
8]	State the statement is True or False? The SQL DISTINCT keyword is used to return only duplicate rows from a query result. (A) plot() (B) line() (C) chart() (D) plotline()	[1
9]	Which of the following statements will read a csv file "emp.csv" from "c:\\Data" folder. (A) pd.readcsv('C:\\Data\\Emp.csv') (B) pd.csv('C:\\Data\\Emp.csv') (C) pd.read_csv('C:\\Data\\Emp.csv') (D) pd.read_csv('C:\\Data\\Emp.csv')	[1
10]	Plagiarism where the writer changes a few words in the original text of another is known as: (A) Direct copy (B) Words switch (C) Paraphrasing (D) None of these	[1
11]	The.....keyword is used to retrieve only distinct (unique) values from a column in a SELECT statement. (A) UNIQUE (B) DISTINCT (C) PRIMARY (D) GROUP	[1
12]	Which network topology requires a central controller or hub? (A) Ring (B) Bus (C) Star (D) Mesh	[1

- 13] Which of the following will not remove the first element of the series myseries: [1]
 (A) del myseries (B) mysries=myseries.drop(0)
 (C) mysries.pop() (D) del myseries[0:1]
- 14] Software that needs a license to be brought for its usage is called: [1]
 (A) License Software (B) FLOSS (C) FOSS (D) Proprietary Software
- 15] What is the output of the following code? [1]
 S1=pd.Series([1.00, 2.45, 2.73, 2.5])
 Print(S1[S1<2])
 (A) 0 1.00 (B) 0 True (C) 0 1.00 (D) 1 1.00
 1 1.45 1 False
- 16] Match the following SQL functions with their descriptions: [1]
- | FUNCTION | DESCRIPTION |
|---------------|--|
| P. NOW() | 1. Returns the current date & time |
| Q. COALECE() | 2. Returns the first non-NULL value |
| R. NOT NULL() | 3. Values which aren't unknown |
| S. LIKE | 4. Used for pattern matching in a string |
- (A) P-1, Q-2, R-3, S-4 (B) P-4, Q-3, R-2, S-1 (C) P-3, Q-4, R-1, S-2 (D) P-2, Q-1, R-4, S-3
- 17] Pandas DataFrame can be created using a..... [1]
 (A) Dictionary of Lists (B) Dictionary of Series
 (C) List of Dictionaries (D) All of these
- 18] Which of the following is used to create a Horizontal Bar Chart? [1]
 (A) bar() (B) barh() (C) hbar() (D) h.bar()
- 19] Which one of the following is an example of Bluetooth? [1]
 (A) WAN (B) MAN (C) LAN (D) PAN
- Q20 and Q21 are Assertion(A) and Reason(R) based questions. Mark the correct choice:
 (A) Both A and R are true and R is the correct explanation for A
 (B) Both A and R are true and R is not the correct explanation for A
 (C) A is True but R is False
 (D) A is False but R is True
- 20] Assertion (A): A Series is a one-dimensional array containing a sequence of values of any datatype (int, float, list, string, etc). [1]
 Reason (B): Pandas Series can be imagined as a column in a spreadsheet.
- 21] Assertion (A): The SELECT statement is used to retrieve data from database. [1]
 Reason (B): SELECT is a Data Control Language (DCL) command in SQL.

Section-B (7 x 2=14 Marks)

- 22] (A) Explain the head() and tail() function of Series with a suitable examples of each. [2]
 OR
 (B) What do you understand by matplotlib in Pandas? Explain.
- 23] What is Digital Footprint? Explain. [2]
- 24] Consider the string "Data Integrity and Security". Write suitable SQL queries for the following: [2]
 (i) To extract and display "Integrity" from the string.
 (ii) Display number of characters present in the string.
- 25] (A) What is a Home-page of a website? Give two advantages. [2]
 OR
 (B) What is cookies? Write its two advantages.
- 26] What is a Key field? Explain in terms of Primary & Foreign key. [2]
- 27] Why E-waste management is a big health concern? Explain two points to manage it. [2]

28] (A) Correct the following code and show the output:

[2

```
import Pandas as pd
data={'A':1, 'B':2, 'C':3}
s=Pd.series(data)
print(s)
```

OR

(B) Complete the code to merge two DFs in single DF mrg_df, and show the output:

```
import..... as pd
df1=pd.DataFrame({'ID': [1, 2, 3], 'Name':['Raman', 'Prerna', 'Nayeem']})
df2=pd.DataFrame({'ID':[1, 2, 4], 'Age':[25, 30, 22]})
mrg_df=pd.merge(df1,df2, on=.....)
print(mrg_df)
```

Section-C (4 x 3 = 12 Marks)

29] Ayush's family is replacing their old computer with a new one. They decide to throw the old computer in a nearby empty field. [3

- (i) Explain any one potential environment hazard associated with such action.
- (ii) Suggest one responsible way to Ayush's family for proper disposal of it.
- (iii) Describe the importance of recycling in e-waste management.

30] (A) Mr. Rakesh is working in an organization as a data analyst. He uses Python Pandas and Matplotlib for the same. He got a dataset of passengers for the year 2010 to 2012 for January, March and December. [3

	Year	Month	Passengers
0	2010	Jan	25
1	2010	Mar	50
2	2012	Jan	35
3	2010	Dec	55
4	2012	Dec	65

Help him to create the above DataFrame **PassDf** and also sort the records in descending order on Passengers and assign to a new object **PassDf1**.

OR

(B) Create a Series **SerPass** using a Dictionary assuming the above data (Qs 30.A) where Year is index and Passengers is data of the Series, to be created. Now, sort the data in ascending order on Passengers of the Series **SerPass**.

31] (i) Write a SQL Command to create a table CUST, with the following specifications: [3

Column Name	Data Type	Constraint
CustId	Numeric	Primary Key
CustName	Varchar(30)	
Age	Numeric	
JoiningDate	Date	

(ii) Write query to insert a record, in this order:

Id: A001 , Age: 23, DOJ: Jan 25, 2010, Name: Surajit Tiwary

(iii) Display record of the CUST who has the maximum age.

32] (A) Write the SQL commands based on the given tables CUST1 & CUST2:

[3

CUST1			CUST2			
CustId	CustName	Age	CustId	Item	Price	DOP
C001	Rohit Mishra	25	C001	Laptop	35000	2010-5-15
C007	Mohit Sinha	35	C010	Mobile	30000	2009-6-25
C008	Rohan Pathak	28	C008	Webcam	14000	2012-9-20
C009	Mohan Das	22	C012	PC	40000	2015-10-5

- To display Item wise average price of each item (*here the table is a small part*).
- To add a new column DateOfPurchase as DOP to CUST2.
- To display the Name, Age, Item & price purchased based on the above table(s).

OR

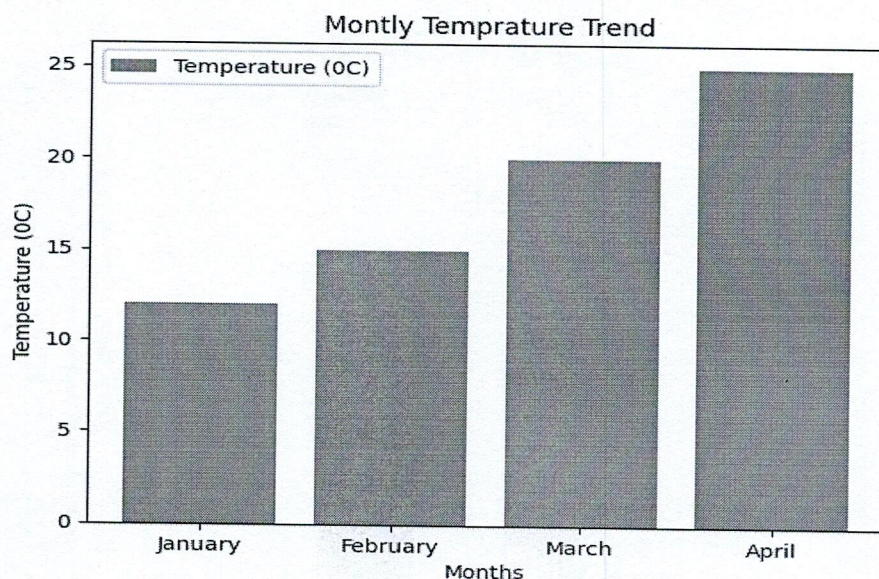
(B) Write the SQL commands based on the above tables CUST1 & CUST2.

- Write the query of the first occurrence of the character 'a' of Id C008 of CUST1 table.
- Display the 6 characters of the Name from the right side of Id C001 of CUST1.
- Display the Name of the Month, of the items were purchased after 2010.

Section-D (2 x 4 = 08 Marks)

33] Shubham was assigned to generate a Bar graph of Monthly Temperature of a City for the months of January-April, as follows. Help him to solve his problems by filling blanks. [4

Month	Temp
January	12
February	15
March	20
April	25



```

import ..... as plt                                     #Statement-1
months=['January', 'February', 'March', 'April']
temperatures=[12, 15, 20, 25]
plt.....(months, ..... , label='Temperature (°C)') #Statement-2
plt.xlabel('Months')
plt.....('Temperature (°C)')                             #Statement-3
plt.legend()
plt.title('.....')                                     #Statement-4
plt.show()
```


- (i) Write a suitable code to import in Statement-1
- (ii) In the graph fill the blanks with right code in Statement-2
- (iii) What is needed to be filled in Statement-3
- (iv) In the title function which value should be there in Statement-4.

34] (A) Rahul is working on DataBase and he developed it for a bookshop, which includes the table **BOOK** with the following attributes. Now write the SQL query to: [4

BCODE for unique code of the books

TITLE for book title

AUTHOR indicates author's name

PRICE lists the costs of the books

DOP shows the date of publications of the books

Table: **BOOK**

BCODE	TITLE	AUTHOR	PRICE	DOP
B001	Midnight's Children	Salman Rushdie	500	2005-10-23
B002	The God of Small Things	Arundhati Roy	400	2009-8-30
B003	A Suitable Boy	Vikram Seth	600	2008-12-25
B004	The White Tiger	Arvind Adiga	399	2010-3-25
B005	Train to Pakistan	Khushwant Singh	350	2012-10-15

- (i) Display the book titles in upper case.
- (ii) Display the highest price of table.
- (iii) Display number of characters of each book title.
- (iv) Display the records from highest price to lowest, those prices are less than 500.

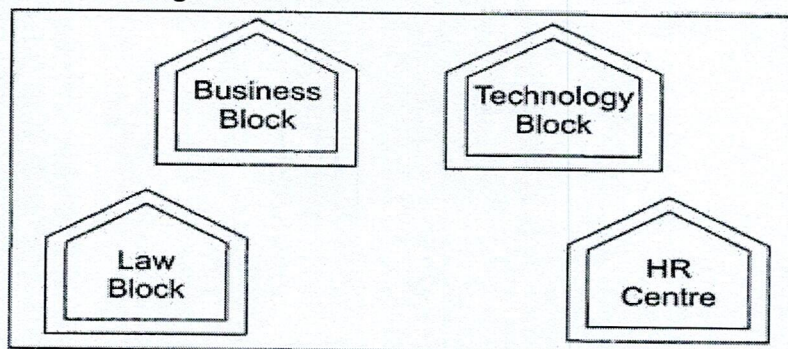
OR

(B) SQL queries to predict output based on the same table **BOOK**, as given above:

- (i) SELECT LENGTH(AUTHOR) FROM BOOK WHERE PRICE > 400;
- (ii) SELECT TITLE FROM BOOK WHERE MONTH(DOP) = 3;
- (iii) SELECT AUTHOR, PRICE FROM BOOK WHERE PRICE BETWEEN 500 AND 400;
- (iv) SELECT MAX(DOP) FROM BOOK;

Section-E (3 x 5 = 15 Marks)

35] Quick Learn University is setting up its academic blocks at Prayag Nagar and planning to set up a network. The university has three academic blocks and one human resource center as shown in the diagram below: [5



Centre to center distance between various blocks/center is as follows:

Law Block to Business Block	40 m
Law Block to Technology Block	80 m
Law Block to HR Centre	105 m
Business Block to Technology Block	30 m
Business Block to HR Centre	35 m
Technology Block to HR Centre	15 m

Number of computers present in each block:

Law Block	15
Technology Block	40
HR Centre	115
Business Block	25

- (i) Suggest the most suitable place (i.e. block/center) to install the server of this university with a suitable reason.
- (ii) Suggest an ideal layout for connecting these blocks/ centers for a wired connectivity.
- (iii) Which device you will suggest to be placed/installed in each of these blocks/ centers to efficiently connect all the computers with in these blocks/ centers?
- (iv) The university is planning to connect its admission office in the closest big city, which is more than 250 km from university, which type of network out of LAN, MAN or WAN will be formed? Justify your answer.
- (v) If another center is being set up in a hilly area near by the university, then what would be the most efficient medium and mode of connectivity to connect this center with the main campus?

36] Write the code as asked below in the following DataFrame Emp.

[5

	Name	Designation	Salary
0	Abhi	DBA	35000
1	Vanshika	Programmer	40000
2	Riya	Tester	32000
3	Chirag	Content Writer	25000
4	Tushar	Business Analyst	30000
5	Khushal	Sales Executive	37000
6	Mahi	Web Designer	42000

- (i) To display Designation and Salary of Riya to Mahi, of the above DF
- (ii) To display Names, whose salary is 30000 and above.
- (iii) To remove the column Designation
- (iv) To add a new row to the DF with suitable record.
- (v) To change the name of the column Salary by EmpSal.

37] (A) Write suitable SQL query for the following:

[5

- (i) To display the maximum age from the age column of Emp table.
- (ii) To display the middle three character of the phone number of Contact table. (Format: 123-456-6789)
- (iii) To display the data from the Address column in the Order table.
- (iv) To display the Sum of the Amount column in the Clints table, after eliminating any leading and trailing space.
- (v) To determine the number of rows in the Product table

OR

(B) Write suitable SQL query (function) for the following works:

- (i) To round the value of 7.89234
- (ii) To calculate the remainder of division of 320 and 15.
- (iii) To display the number of characters in "IndoAryan".
- (iv) To display the word 'Aryan' from "IndoAryan Existentialism".
- (v) To print today's name of the Week.

###

- (i) Write a suitable code to import in Statement-1
- (ii) In the graph fill the blanks with right code in Statement-2
- (iii) What is needed to be filled in Statement-3
- (iv) In the title function which value should be there in Statement-4.

34] (A) Rahul is working on DataBase and he developed it for a bookshop, which includes the table **BOOK** with the following attributes. Now write the SQL query to: [4

BCODE for unique code of the books

TITLE for book title

AUTHOR indicates author's name

PRICE lists the costs of the books

DOP shows the date of publications of the books

Table: **BOOK**

BCODE	TITLE	AUTHOR	PRICE	DOP
B001	Midnight's Children	Salman Rushdie	500	2005-10-23
B002	The God of Small Things	Arundhati Roy	400	2009-8-30
B003	A Suitable Boy	Vikram Seth	600	2008-12-25
B004	The White Tiger	Arvind Adiga	399	2010-3-25
B005	Train to Pakistan	Khushwant Singh	350	2012-10-15

- (i) Display the book titles in upper case.
- (ii) Display the highest price of table.
- (iii) Display number of characters of each book title.
- (iv) Display the records from highest price to lowest, those prices are less than 500.

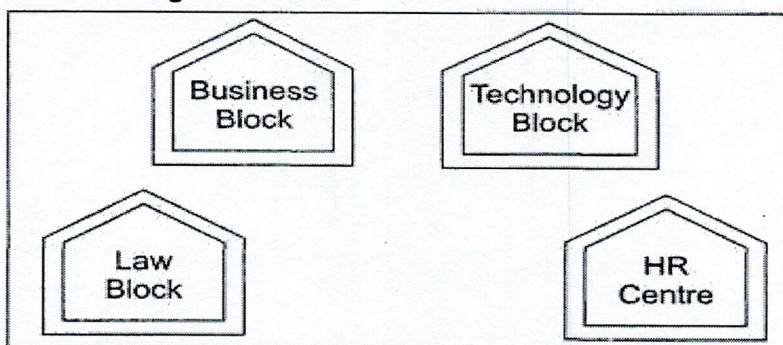
OR

(B) SQL queries to predict output based on the same table **BOOK**, as given above:

- (i) SELECT LENGTH(AUTHOR) FROM BOOK WHERE PRICE > 400;
- (ii) SELECT TITLE FROM BOOK WHERE MONTH(DOP) = 3;
- (iii) SELECT AUTHOR, PRICE FROM BOOK WHERE PRICE BETWEEN 500 AND 400;
- (iv) SELECT MAX(DOP) FROM BOOK;

Section-E (3 x 5 = 15 Marks)

35] Quick Learn University is setting up its academic blocks at Prayag Nagar and planning to set up a network. The university has three academic blocks and one human resource center as shown in the diagram below: [5



Centre to center distance between various blocks/center is as follows:

Law Block to Business Block	40 m
Law Block to Technology Block	80 m
Law Block to HR Centre	105 m
Business Block to Technology Block	30 m
Business Block to HR Centre	35 m
Technology Block to HR Centre	15 m

Number of computers present in each block:

Law Block	15
Technology Block	40
HR Centre	115
Business Block	25

- (i) Suggest the most suitable place (i.e. block/center) to install the server of this university with a suitable reason.
- (ii) Suggest an ideal layout for connecting these blocks/ centers for a wired connectivity.
- (iii) Which device you will suggest to be placed/installed in each of these blocks/ centers to efficiently connect all the computers with in these blocks/ centers?
- (iv) The university is planning to connect its admission office in the closest big city, which is more than 250 km from university, which type of network out of LAN, MAN or WAN will be formed? Justify your answer.
- (v) If another center is being set up in a hilly area near by the university, then what would be the most efficient medium and mode of connectivity to connect this center with the main campus?

36] Write the code as asked below in the following DataFrame Emp.

[5]

	Name	Designation	Salary
0	Abhi	DBA	35000
1	Vanshika	Programmer	40000
2	Riya	Tester	32000
3	Chirag	Content Writer	25000
4	Tushar	Business Analyst	30000
5	Khushal	Sales Executive	37000
6	Mahi	Web Designer	42000

- (i) To display Designation and Salary of Riya to Mahi, of the above DF
- (ii) To display Names, whose salary is 30000 and above.
- (iii) To remove the column Designation
- (iv) To add a new row to the DF with suitable record.
- (v) To change the name of the column Salary by EmpSal.

37] (A) Write suitable SQL query for the following:

[5]

- (i) To display the maximum age from the age column of Emp table.
- (ii) To display the middle three character of the phone number of Contact table. (Format: 123-456-6789)
- (iii) To display the data from the Address column in the Order table.
- (iv) To display the Sum of the Amount column in the Clints table, after eliminating any leading and trailing space.
- (v) To determine the number of rows in the Product table

OR

(B) Write suitable SQL query (function) for the following works:

- (i) To round the value of 7.89234
- (ii) To calculate the remainder of division of 320 and 15.
- (iii) To display the number of characters in "IndoAryan".
- (iv) To display the word 'Aryan' from "IndoAryan Existentialism".
- (v) To print today's name of the Week.

###



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Economics
Maximum Marks- 80

General Instructions

- i. This Question Paper contains two parts:
 - **Part A - Macro Economics (40 marks)**
 - **Part B - Indian Economic Development (40 marks)**
- ii. Question No. 1 - 10 and 18-27 are very short answer questions carrying 1 mark each. They are required to be answered in one word or one sentence each.
- iii. Question No. 11-12 and 28-29 are short answer questions carrying 3 marks each. Answers to them should not normally exceed 60 - 80 words each.
- iv. Question No. 13-15 and 30-32 are short answer questions carrying 4 marks each. Answers to them should not normally exceed 80 - 100 words each.
- v. Question No. 16-17 and 33-34 are long answer questions carrying 6 marks each. Answers to them should not normally exceed 100-150 words each.

SECTION - A

(MACRO ECONOMICS - 40 MARKS)

1. In the question below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

Assertion (A): Ex-post investments represent planned investments whereas ex-ante investments represent actual level of investments.

Reason (R): At equilibrium level ex-ante savings and ex-ante investments are equal.

Options:

- (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are correct but R is not the correct explanation of A.
 - (c) A is correct but R is wrong.
 - (d) A is wrong but R is correct.
2. **Statement I:** A progressive tax system is the one which increases with an increase in income.
Statement II: In a regressive tax system, high income earners pay a higher amount of taxes compared to low income earners.

Alternatives:

- (a) Statement I is true and II is false.
- (b) Statement I is false and II is true.
- (c) Both the statements are true.
- (d) Both the statements are false.

OR

The government can achieve its budget objective of 'redistribution of income' by _____.

- (a) managing the general price level in the economy to the desired level
- (b) increasing the GDP of the economy
- (c) bringing the production of goods and services under its direct and absolute control
- (d) rationalization of taxes in pro-poor direction

3. **Statement I:** Real and money flows are the essence of modern economic activity.

Statement II: Factor services flow from household to the producers without which production activities are not possible. Likewise, factor incomes flow from producers to the households without which consumption activities is not possible.

Alternatives:

- (a) Statement I is true and II is false.
- (b) Statement I is false and II is true.
- (c) Both the statements are true.
- (d) Both the statements are false.

4. "Indian Rupee rally is at a two-month high on likely dollar inflows."

Source <https://shorturl.at/IQZJF>

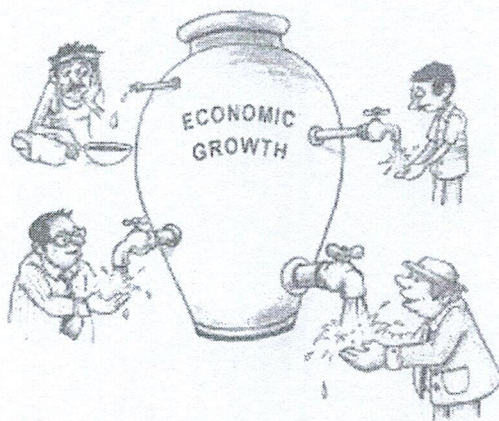
What could be a potential impact of the Indian rupee appreciating against the US dollar, as mentioned in the headline?

- (a) increase in export competitiveness for Indian goods
- (b) decrease in the cost of import
- (c) higher inflation rates in India
- (d) decrease in foreign investment in India

5. If marginal propensity to save is 0.25 and initial change in investment is Rs 250 crore, then the final change in income would be:

- (a) Rs. 1000 crore
- (b) Rs. 1200 crore
- (c) Rs. 500 crore
- (d) Rs. 3500 crore

6. Observe the image given below carefully and identify the objective that the government should pursue to deal with the situation.



- (a) Increase in economic growth
- (b) Reducing inequality of income and wealth
- (c) Reallocation of resources
- (d) None of the above

7. Assume a hypothetical consumption function in an economy $C = 100 + 0.8Y$. In the context of the above, choose the incorrect alternative:

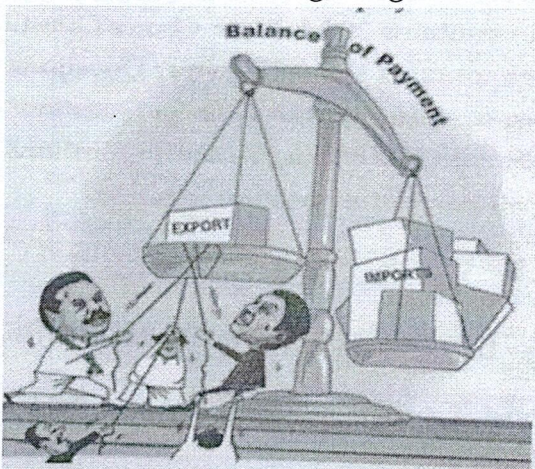
- (a) Consumption which is dependent on income is Rs 100
- (b) It indicates 20% of additional income is saved
- (c) Saving curve will start from (-)100
- (d) It indicates 80% of additional income is spent on consumption

8. **Statement I:** The consumption curve in a straight line indicates that consumption increases proportionally with income.

Statement II: A straight line consumption curve means that consumption remains constant regardless of changes in income.

Alternatives:

- (a) Statement I is true and II is false.
 - (b) Statement I is false and II is true.
 - (c) Both the statements are true.
 - (d) Both the statements are false.
9. "Fiscal policy is a tool used by the government to stabilize the economy and promote economic growth." How does fiscal policy aim to stabilize the economy?
- (a) by controlling interest rates
 - (b) by regulating international trade
 - (c) by managing government spending and taxation
 - (d) by controlling the money supply
10. What does the following image indicate about the Balance of payments?



- (a) surplus in balance of payments
 - (b) deficit in balance of payments
 - (c) balanced BOP
 - (d) none of the above
11. Calculate Gross National Product at factor cost from the following data by expenditure method: [3]

Items	Rs. crores
Private final consumption expenditure	1,000
Net domestic capital formation	200
Profits	400
Compensation of employees	800
Rent	250
Government final consumption expenditure	500
Consumption of fixed capital	60
Interest	150
Net current transfers from rest of the world	(-)80
Net factor income from abroad	(-)10
Net Exports	(-)20
Net indirect taxes	80

OR

What precautions should be kept in mind while estimating national income by value added method?

12. As per the following news published in the The Economic Times on 8th December 2021, "Higher taxes from the rich would pay for programs that improve the welfare of the poor through the government's expenditure policy." Briefly explain how the government can use its expenditure policy to bring social equality? [3]
13. "India's balance of payment is in disequilibrium." Enumerate some of the factors, which according to you, can be the causes of disequilibrium. [4]
14. In an economy, the equilibrium level of income is Rs. 12,000 crore. The ratio of marginal propensity to consume and marginal propensity to save is 3:1. Calculate the additional investment needed to reach a new equilibrium level of income of Rs 20,000 crore. [4]

OR

Keynesian theory tells us that the inflationary gap emerges only when full employment is reached. But, in India, we often find a high rate of inflation along with a high rate of unemployment. How do you explain this paradox?

15. 'In a developing economy the government has recently introduced policies to boost consumer spending and investment in order to stimulate economic growth. The policy measures include tax rebates to increase disposable income and incentives for businesses to invest in new projects. As a result, there has been a noticeable shift in the consumption and saving behaviour of households as well as changes in investment activities by businesses.'
Outline the steps taken in deriving the consumption curve from the saving curve. Use diagram. [4]

16. **Read the following article and answer the questions given below.**

The Reserve Bank of India unexpectedly cut its key deposit rate on Friday, for the second time in three weeks, to discourage banks from parking idle funds with it and spur lending instead, to revive a flagging economy amid the coronavirus lockdown.

This week, Prime Minister Narendra Modi extended until May 3 a lockdown of the population of 1.3 billion as India's tally of infections exceeded 10,000, despite the three week shut down ordered from March 24.

'The RBI cut its reverse repo rate by 25 basis points to 3.75% with immediate effect', Governor Shaktikanta Das told a video conference. The rate had already been cut by 90 basis points on March 27.

"The surplus liquidity in the banking system has risen significantly in the wake of government spending and various liquidity enhancing measures undertaken by the RBI," he added.

"In order to encourage banks to deploy the surplus funds in investments and loans in productive sectors of the economy, it has been decided to reduce the fixed-rate reverse repo rate."

- (i) Define Reverse Repo Rate. What impact will the reduction in repo rate have on the money supply, aggregate demand and general price level? Explain. [3]
- (ii) Discuss any two credit control measures of the Central Bank other than Reverse Repo Rate that can be helpful in boosting the process of credit creation in the economy. [3]

17. (i) "Real GDP differs from nominal GDP." In the light of the above given statement, explain the differences between the real GDP and the nominal GDP. [3]
- (ii) "National income is always greater than domestic income." Do you agree with the given statement? Support your answer with a valid reason. [3]

- (i) Distinguish between the consumption goods and capital goods.
- (ii) "Distribution phase of circular flow of income involves flow of factor income which comprises rent, wages, interest and profits from firms to households." Defend or refute the statement, giving valid reasons in support of your answer.

(INDIAN ECONOMY - 40 MARKS)



- (a) Land degradation
(b) Air pollution
(c) Global warming
(d) Loss of biodiversity
19. Which of the given statements are correct with regard to commercialisation of agriculture?
(i) production for self consumption
(ii) production of cash crops instead of food crops
(iii) production of crops for sale in the market
(iv) commercialisation improved the economics status of the farmers

- (a) (i) and (iv)
- (c) (ii) and (iv)
- (b) (ii) and (iii)
- (d) (iii) and (iv)

- (a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are correct but R is not the correct explanation of A.
(c) A is correct but R is wrong.
(d) A is wrong but R is correct.

21. "India is often called the outsourcing hub of the world." Why is India referred to as the outsourcing hub of the world?

- (a) Due to its abundant natural resources
- (b) Because of its low labour cost and skilled workforce
- (c) Because of its large geographical size
- (d) Due to its high number of international trade agreements

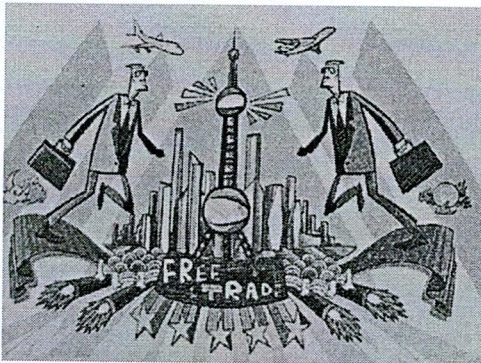
22. **Statement I:** The emergence of Self Help Groups (SHGs) ensured the reduction in the fissures of the formal credit system.

Statement II: The borrowings from SHGs are mainly confined to consumption purposes by its members.

Alternatives

- (a) Statement I is true and II is false.
- (b) Statement is false and II is true.
- (c) Both the statements are true.
- (d) Both the statements are false.

23. As per the image given below which of the following facilitates free trade?



- (a) liberalization
- (b) privatization
- (c) globalization
- (d) Both (a) and (c)

24. Which of the following statements is correct regarding Special Economic Zones (SEZs) in China?

- (a) In order to attract foreign investors, Special Economic Zones (SEZs) was set up in China.
- (b) The main purpose of Special Economic Zones (SEZs) in China was to increase local taxes and regulations.
- (c) The government restricted foreign investment in Special Economic Zones (SEZs) to encourage domestic companies.
- (d) Special Economic Zones (SEZs) in China were primarily intended to reduce foreign trade and investment.

25. In the question below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

Assertion (A): Ozone depletion refers to the phenomena of reductions in the ozone layer in the stratosphere.

Reason (R): Ozone depletion is caused by high levels of chlorine and bromine compounds in the stratosphere. Origins of these compounds are chlorofluorocarbons (CFCs).

Options:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are correct but R is not the correct explanation of A.
- (c) A is correct but R is wrong.
- (d) A is wrong but R is correct.

OR

Statement I: Organic farming is helpful in off-season crops.

Statement II: Organic farming helps in sustainable development.

Alternatives:

(a) Statement I is true and II is false.

(b) Statement I is false and II is true.

(c) Both the statements are true.

(d) Both the statements are false.

26. "Most of the agricultural labourers depend upon loans from the informal sector." Which of the following statements about the sector is correct?

(a) There are government bodies to supervise informal sector

(b) Moneylenders ask for a reasonable rate of interest

(c) Cost of informal loans to the borrower is quite high

(d) Moneylenders use fair means to get their money back

27. **Statement I:** India ranks first in the world in milk production.

Statement II: India's milk production increased due to flood operation.

Alternatives:

(a) Statement I is true and II is false.

(b) Statement I is false and II is true.

(c) Both the statements are true.

(d) Both the statements are false.

28. State the following statements as true or false with valid explanation.

[3]

(i) The Industrial sector performed well during the reform period.

(ii) Multinational companies are outsourcing their services to the Indian economy.

(iii) Those public sector undertakings which are making profits should be privatized.

OR

"Upto 1991, the Indian government followed an inward looking trade policy to protect and promote domestic industries." Briefly explain the benefits credited to the country by following this trade policy.

29. "The introduction of the 'One Child Norm' in China had far reaching consequences for population control and social policies. What are some important implications of the One Child Norm in China?"

[3]

30. "There are various underlying causes behind the slow economic progress and increasing poverty levels in Pakistan." Do you agree with the given statement? If yes, then give reasons in support of your answer.

[4]

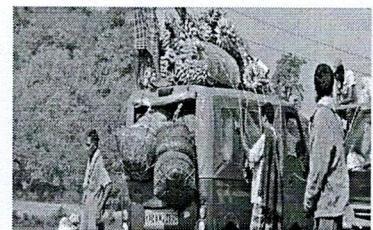
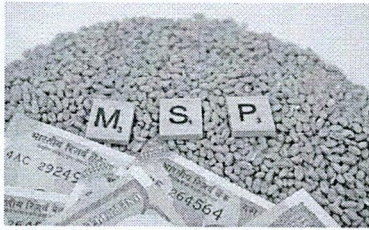
31. "Economists believe that India should spend at least 6% of its GDP on education for achieving desired results." Justify the statement, with valid reasons.

[4]

OR

"School dropouts are giving a way to child labour." Discuss how this is a loss of human capital.

32. (i) Based upon the image given below, briefly explain the problems of agricultural marketing. [3]



- (ii) What role do market intermediaries play in agricultural marketing? [1]

33. Read the given excerpt taken from the article.

“The unemployment Paradox: Looking at growth without jobs”, published by Economic and Political Weekly (EPW) and answer the given questions on the basis of the same and common understanding.

How is India's Economy Growing without Jobs?

The most puzzling aspect about employment policies in India in recent times is that the years of high economic growth have been years of joblessness too.

Despite growing at more than 7% for the last decade and a half, the economy could not generate enough employment. Growth rate on annual employment fell drastically from 2.87% to less than 1% over this period.

Alok Sheel has pointed out that though the economics survey 2017-18 has suggested that the Indian economy is on the path of recovery, there is growing apprehension that the discrepancies in data extend beyond employment estimates only.

The growth figures, too are not outside the suspicion of statistical jugglery and deflection. Shifting time series and the selective use of data can lead to some political advantages. But it deflects attention from the bigger question, that is, the revival of economic growth.

The economy is now growing basically on the strength of consumption, accounting for 95% of GDP growth in 2016-17, and public investment. Fiscal expansion during a downturn is justified on Keynesian grounds, but unless private investment terms around quickly to facilitate exit, the fiscal balance can spin out of control.

The stresses are already palpable in slippages from fiscal deficit targets.

The government was fortunate that fiscal space was created by the decline in oil prices, which were by and large not passed on to the consumer. This space is now shrinking with oil prices fuming up.

Is Jobless Growth Informalizing Labour?

A worrying trend of the Indian job market is that informalisation is gradually taking over the formal job markets as well.

The share of informal jobs in public sector increased from 30% to 35% within a span of five years between 1999-2000 and 2004-2005; while in the formal private sector this has decreased from 69 percent to 63%. Vinod Abraham's 2017 article has surveyed in detail the sectors that were affected by the stagnation in the job market.

In general, major labour-absorbing sectors like construction, real estate, finance and business services sector have experienced a slowdown in the growth of Gross Value Added (GVA) and subsequently employment creation.

The IT/BPO sector, which is within business services was a major contributor of organised sector employment in 2012 comprising nearly 70% of the jobs created.

When employment in IT/BPO dropped by 84% and between 2012 -14, it was a huge blow to organised sector employment.

- (i) Do you think that in the last 50 years, employment generated in the country is commensurate (proportionate) with the growth of GDP in India? How? [2]
- (ii) What should be the main elements of 'employment policy' in India in the present context? [2]
- (iii) What trend has been observed in the share of informal jobs in the public sector between 1999-2000 and 2004-2005? [2]

34.1. "In India, after 1947, land reforms were introduced on a large scale." In the light of the given statement, discuss any one such land reform.

34.2. "The benefits of the green revolution were restricted to a few states and few crops in the initial stages of planning." Explain, why? [3+3=6]

OR

State whether the following statements are true or false, with valid arguments. [2+2+2=6]

- (a) It was necessary for a developing country like India to follow self-reliance as an objective of economic planning.
 - (b) The government has been successful in introducing Navratna Policy to improve the performance of public sector undertakings in India.
 - (c) The percentage share of the agriculture sector in the exports of the country declined in the period 1950 to 1990.
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Physics
Maximum Marks- 70

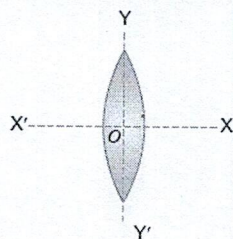
General Instructions

1. There are 33 questions in all. All questions are compulsory.
2. This question paper has five sections: Section A, Section B, Section C, Section D and Section E.
3. All the sections are compulsory.
4. Section A contains sixteen questions, twelve MCQs and four Assertion Reasoning based of 1 mark each, Section B contains five questions of two marks each, Section C contains seven questions of three marks each, Section D contains two case study based questions of four marks each and Section E contains three long answer questions of five marks each.
5. There is no overall choice. However, an internal choice has been provided in one question in Section B, one question in Section C, one question in each CBQ in Section D and all three questions in Section E. You have to attempt only one of the choices in such questions.
6. Use of calculators is not allowed.

SECTION - A

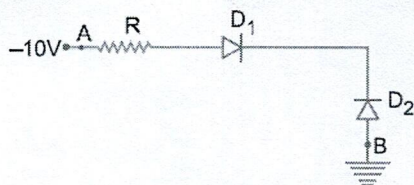
1. A uniform electric field pointing in positive X-direction exists in a region. Let A be the origin, B be the point on the X-axis at $x = +1$ cm and C be the point on the Y-axis at $y = +1$ cm. Then the potential at points A, B and C satisfy.
(A) $V_A < V_B$
(B) $V_A > V_B$
(C) $V_A < V_C$
(D) $V_A > V_C$
2. A student connects 10 dry cells each of emf E and internal resistance r in series, but by mistake the one cell gets wrongly connected. Then net emf and net internal resistance of the combination will be
(A) $9E, 9r$
(B) $8E, 10r$
(C) $10E, 10r$
(D) $8E, r/10$
3. The magnetic susceptibility for a diamagnetic material is
(A) small and negative
(B) small and positive
(C) large and negative
(D) large and positive
4. A long straight wire of circular cross section of radius ' a ' carries a steady current I . The current is uniformly distributed across its cross section. The ratio of magnitudes of the magnetic field at a point $a/2$ above the surface of wire to that of a point $a/2$ below its surface is
(A) 4:1
(B) 1:1
(C) 4:3
(D) 3:4

5. The diffraction effect can be observed in
 (A) sound waves only
 (B) light waves only
 (C) ultrasonic waves only
 (D) sound waves as well as light waves
6. In a series LCR circuit, the voltage across the resistance, capacitance and inductance is 10 V each. If the capacitance is short circuited the voltage across the inductance will be
 (A) 10 V
 (B) $10\sqrt{2}$ V
 (C) $10/\sqrt{2}$ V
 (D) 20 V
7. A galvanometer of resistance $100\ \Omega$ is converted into an ammeter of range (0 -1 A) using a resistance of $0.1\ \Omega$. The ammeter will show full scale deflection when minimum current in galvanometer is
 (A) 0.1 mA
 (B) 1 mA
 (C) 10 mA
 (D) 0.1 A
8. The phase difference between electric field E and magnetic field B in an electromagnetic wave propagating along z-axis is
 (A) Zero
 (B) π
 (C) $\pi/2$
 (D) $\pi/4$
9. The radius (r_n) of nth orbit in Bohr model of hydrogen atom varies with n as
 (A) $r_n \propto n$
 (B) $r_n \propto 1/n$
 (C) $r_n \propto n^2$
 (D) $r_n \propto 1/n^2$
10. An equiconvex lens is cut into two halves along (i) XOX' and (ii) YOY' as shown in the figure. Let f , f' and f'' be the of the focal lengths of complete lens, of each half in case (i) and of each half in case (ii) respectively. Choose the correct statement from the following:



- (A) $f' = 2f$ and $f'' = f$
 (B) $f' = f$ and $f'' = f$
 (C) $f' = 2f$ and $f'' = 2f$
 (D) $f' = f$ and $f'' = 2f$
11. An electron makes a transition from orbit $n = 2$ to orbit $n = 1$, in Bohr's model of hydrogen atom. Consider change in magnitudes of its kinetic energy (K) and potential energy (U).
 (A) K increases and U decreases
 (B) K decreases and U increases
 (C) Both K and U decrease
 (D) Both K and U increase

12. In given figure, assuming the diodes to be ideal,



- (A) D_1 is forward biased and D_2 is reverse biased and hence current flows from A to B.
- (B) D_2 is forward biased and D_1 is reverse biased and hence no current flows from B to A and vice versa.
- (C) D_1 and D_2 are both forward biased and hence current flows from A to B.
- (D) D_1 and D_2 are both reverse biased and hence no current flows from A to B and vice versa.

For Questions 13 to 16, two statements are given – one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options as given below.

- A. If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- B. If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- C. If Assertion is true but Reason is false.
- D. If both Assertion and Reason are false.

13. **Assertion (A):** On increasing the current sensitivity of a galvanometer by increasing the number of turns may not necessarily increase its voltage sensitivity.

Reason(R): The resistance of the coil of the galvanometer increases on increasing the number of turns.

14. **Assertion (A):** de Broglie's wavelength of a freely falling body keeps decreasing with time.

Reason (R): The momentum of the freely falling body increases with time.

15. **Assertion (A):** The temperature coefficient of resistance is positive for metals and negative for p-type semiconductors.

Reason (R): The charge carriers in metals are negatively charged, whereas the majority charge carriers in p-type semiconductors are positively charged.

16. **Assertion (A):** Nuclear fission reactions are responsible for energy generation in the Sun.

Reason (R): Light nuclei fuse together in the nuclear fission reactions.

SECTION - B

17. (a) A cell is connected across an external resistance of $12\ \Omega$ and supplies 0.25 A current. When the external resistance is increased by $4\ \Omega$, the current reduces to 0.2 A. Calculate (i) the emf, and (ii) the internal resistance, of the cell.

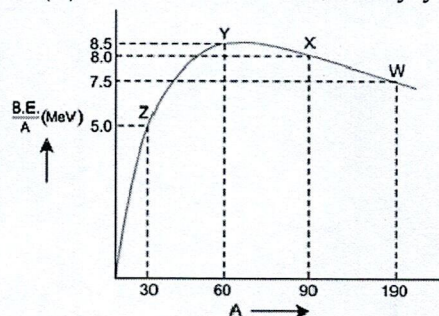
OR

(b) Two point charges of 3 mC and 4 mC are kept in air at (0.3 m, 0) and (0, 0.3 m) in x-y plane. Find the magnitude and direction of the net electric field produced at the origin (0, 0).

18. Draw the circuit diagram of a p-n junction diode in (i) forward biasing and (ii) reverse biasing. Also draw its I-V characteristics in the two cases.

19. Binding energy per nucleon vs mass number curve for nuclei is shown in the figure. W, X, Y and Z are four nuclei indicated on the curve. Identify which of the following nuclei is most likely to undergo

(i) Nuclear Fission (ii) Nuclear Fusion. Justify your answer.

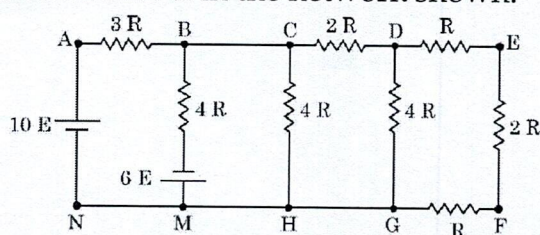


20. A plano-convex lens of focal length 16 cm is made of a material of refractive index 1.4. Calculate the radius of the curved surface of the lens.
21. A ray of light is incident normally on one face of an equilateral glass prism of refractive index μ . When the prism is completely immersed in a transparent medium, it is observed that the emergent ray just grazes the adjacent face. Find the refractive index of the medium.

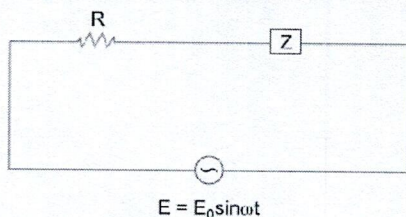
SECTION - C

22. (i) Using Gauss theorem show mathematically that for any point outside the shell, the field due to a uniformly charged spherical shell is same as the entire charge on the shell, is concentrated at the centre.
- (ii) Why do you expect the electric field inside the shell to be zero according to this theorem?

23. Find the current in branch BM in the network shown:



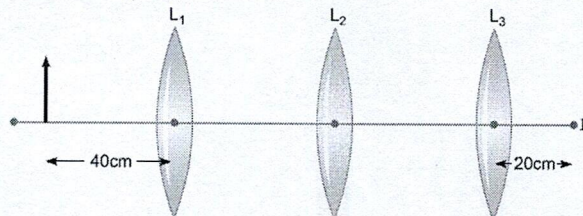
24. A proton with kinetic energy 1.3384×10^{-14} J moving horizontally from north to south, enters a uniform magnetic field B of 2.0 mT directed eastward. Calculate:
- the speed of the proton
 - the magnitude of acceleration of the proton
 - the radius of the path traced by the proton
- [Take (q/m) for proton = 1.0×10^8 C/kg]
25. An alternating voltage $E = E_0 \sin \omega t$ is applied to a circuit containing a resistor R connected in series with a black box. The current in the circuit is found to be $I = I_0 \sin (\omega t + \pi/4)$.
- State whether the element in the black box is a capacitor or inductor.
 - Draw the corresponding phasor diagram and find the impedance in terms of R .



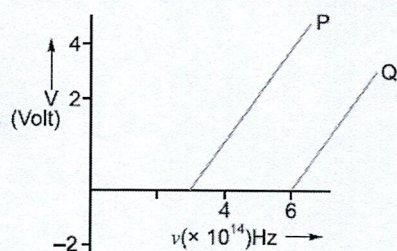
26. (i) Draw a labelled ray diagram to obtain the real image formed by an astronomical telescope in normal adjustment position.
- (ii) You are given three lenses of power 0.5 D, 4 D and 10 D to design a telescope.
- (a) Which lenses should be used as objective and eyepiece? Justify your answer.
- (b) Why is the aperture of the objective preferred to be large?

OR

You are given three lenses L_1 , L_2 and L_3 each of focal length 20 cm. An object is kept at 40 cm in front of L_1 , as shown. The final real image is formed at the focus 'I' of L_3 . Find the separations between L_1 , L_2 and L_3 .



27. In the study of a photoelectric effect the graph between the stopping potential V and frequency ν of the incident radiation on two different metals P and Q is shown below:



- (i) Which one of the two metals has higher threshold frequency?
- (ii) Determine the work function of the metal which has greater value.
- (iii) Find the maximum kinetic energy of electron emitted by light of frequency 8×10^{14} Hz for this metal.
28. Using Bohr's postulates, obtain the expression for the total energy of the electron in the stationary states of the hydrogen atom. Hence draw the energy level diagram showing how the line spectra corresponding to Balmer series occur due to transition between energy levels.

SECTION - D

Questions number 29 and 30 are case study-based questions. Read the following paragraphs and answer the questions that follow.

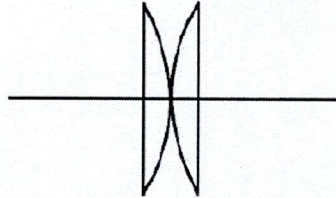
29. A lens is a transparent medium bounded by two surfaces, with one or both surfaces being spherical. The focal length of a lens is determined by the radii of curvature of its two surfaces and the refractive index of its medium with respect to that of the surrounding medium. The power of a lens is reciprocal of its focal length. If a number of lenses are kept in contact, the power of the combination is the algebraic sum of the powers of the individual lenses.
- (i) A double-convex lens, with each face having same radius of curvature R , is made of glass of refractive index n . Its power is:

- (A) $\frac{2(n-1)}{R}$
- (B) $\frac{(2n-1)}{R}$
- (C) $\frac{(n-1)}{2R}$
- (D) $\frac{(2n-1)}{2R}$

(ii) A double-convex lens of power P , with each face having same radius of curvature, is cut into two equal parts perpendicular to its principal axis. The power of one part of the lens will be:

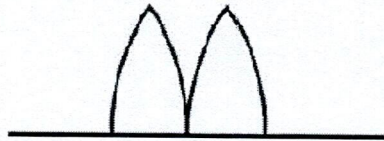
- (A) $2P$
- (B) P
- (C) $4P$
- (D) $P/2$

(iii) The above two parts are kept in contact with each other as shown in the figure. The power of the combination will be:



- (A) $P/2$
- (B) P
- (C) $2P$
- (D) $P/4$

(iv) (a) A double-convex lens of power P , with each face having same radius of curvature, is cut along its principal axis. The two parts are arranged as shown in the figure. The power of the combination will be:



- (A) Zero
- (B) P
- (C) $2P$
- (D) $P/2$

OR,

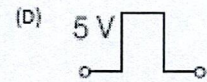
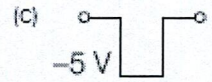
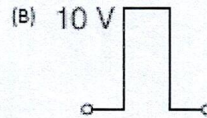
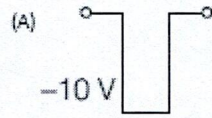
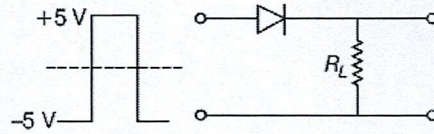
(iv) (b) Two convex lenses of focal lengths 60 cm and 20 cm are held coaxially in contact with each other. The power of the combination is :

- (A) $1/15$ D
- (B) 15 D
- (C) 6.6 D
- (D) $1/80$ D

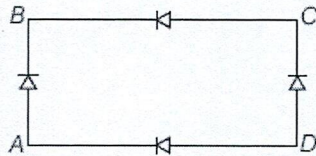
30. The process of converting alternating voltage/current into direct voltage/current is called rectification. Diode is used as a rectifier for converting alternating current/voltage into direct current/voltage.

Diode allows current to pass only, when it is forward biased. So, if an alternating voltage is applied across a diode, the current flows only in that part of the cycle when the diode is forward biased. This property is used to rectify the current/voltage.

- (i) If in a p-n junction, a square input signal of 10 V is applied as shown then the output signal across R_L will be



- (ii) In figure, the input is across the terminals A and C and the output is across B and D. Then, the output is



- (A) zero
(B) same as the input
(C) half wave rectified
(D) full wave rectified

- (iii) (a) Which of the following is not true about a rectifier circuit?

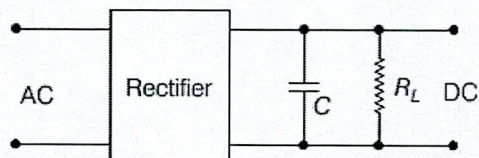
- (A) It can convert DC to AC.
(B) It can convert AC to DC.
(C) It can shift voltage level.
(D) None of these.

OR

- (b) The ratio of output frequencies of half-wave rectifier and a full wave rectifier, when an input of frequency 200 Hz is fed at input, is

- (A) 1 : 2
(B) 2 : 1
(C) 4 : 1
(D) 1 : 4

- (iv) In the given circuit, capacitor C is used



- (A) for storing potential energy
(B) as a bypass to DC component to get AC in R_L
(C) to remove sparking
(D) as a bypass to AC component to get DC in R_L

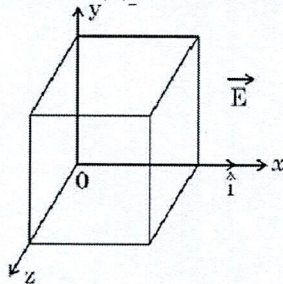
SECTION - E

31. (a) (i) A dielectric slab of dielectric constant 'K' and thickness 't' is inserted between plates of a parallel plate capacitor of plate separation d and plate area A. Obtain an expression for its capacitance.
- (ii) Two capacitors of different capacitances are connected first (1) in series and then (2) in parallel across a dc source of 100 V. If the total energy stored in the combination in the two cases are 40 mJ and 250 mJ respectively, find the capacitance of the capacitors.

OR,

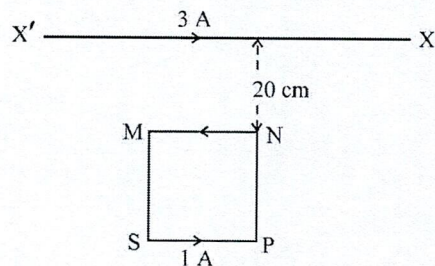
- (b) (i) Using Gauss's law, show that the electric field E at a point due to a uniformly charged infinite plane sheet is given by $\vec{E} = \sigma/2\epsilon_0 \hat{n}$, where symbols have their usual meanings.
- (ii) Electric field E in a region is given by $\vec{E} = (5x^2 + 2) \hat{i}$, where E is in N/C and x is in meters.

A cube of side 10 cm is placed in the region as shown in figure. Calculate (1) the electric flux through the cube, and (2) the net charge enclosed by the cube.



32. (a) (i) With the help of a labelled diagram, explain the working of an ac generator. Obtain the expression for the emf induced at an instant 't'.
- (ii) A long, straight horizontal wire X'X is held stationary and carries a current of 3.0 A. A square loop MNPS of side 10 cm, carrying a current of 1.0 A is kept near the wire X'X as shown in the figure.

Find the magnitude and direction of the net magnetic force acting on the loop due to the wire.



OR,

- (i) State Faraday's law of electromagnetic induction and mention the utility of Lenz's law. Obtain an expression for self-inductance of a coil in terms of its geometry and permeability of the medium.
- (ii) A resistance of 20Ω , a capacitance of 80 mF and an inductor of 50 mH are connected in series. This combination is connected across a 220 V ac supply of variable frequency. When the frequency of supply equals the natural frequency of the circuit, Calculate:

- (1) angular frequency of ac supply
- (2) impedance of the circuit

33. (a) (i) State Huygen's principle and verify laws of refraction using a suitable ray diagram.
(ii) In Young's double slit experiment, the slits S_1 and S_2 are 3 mm apart and the screen is placed 1.0 m away from the slits. It is observed that the fourth bright fringe is at a distance of 5 mm from the second dark fringe. Find the wavelength of light used.

OR,

- (b) (i) Give any two differences between the interference pattern obtained in Young's double-slit experiment and a diffraction pattern due to a single slit.
(ii) Draw an intensity distribution graph in case of a double-slit interference pattern.
(iii) In Young's double-slit experiment using monochromatic light of wavelength λ , the intensity of light at a point on the screen, where path difference is λ , is K units. Find the intensity of light at a point on the screen where the path difference is $\lambda/6$.
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Political Science
Maximum Marks- 80

General Instructions:

1. The question paper consists of five sections (A, B, C, D and E) with 30 questions in total.
2. All questions are compulsory.
3. Question numbers 1-12 are multiple choice questions of one mark each.
4. Question numbers 13-18 are of 2 marks each. Answers to these questions should not exceed 50-60 words each.
5. Question numbers 19-23 are of 4 marks each. Answers to these questions should not exceed 100-120 words each. There is an internal choice in two of the 4 marks questions.
6. Question numbers 24-26 are passage, cartoon and map-based questions. Answer accordingly. Question numbers 27-30 are of 6 marks each. Answers to these questions should not exceed 170-180 words.
7. There is an internal choice in 6 marks questions.

SECTION - A (12 MARKS)

Arrange the following in the chronological order of their establishment:

- The WTO
- Amnesty International
- League of Nations
- World Bank

iv, iii, ii, i

i, ii, iii, iv

v, iii, ii, i

i, iv, i, ii

5. Name the commission which replaced planning commission?

- ITI Aayog
- Reserve Bank of India
- Right to Information Commission
- Parliamentary Commission

6. In which year were the 16th General Elections in India held in the year:

7. The 12th Five Year Plan was launched in:-

5. Match List I with List II regarding the cultural consequences of globalization.

List I	List II
a. Cultural Homogenisation	i. Imposition of Western culture on the rest of the world
b. US Hegemony	ii. Cultures seeking to buy into the dominant American dream
c. McDonaldisation	iii. Each culture becoming more different and distinctive
d. Cultural Heterogenisation	iv. Uniform culture

- a) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
b) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)
c) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
d) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

6. **Assertion (A):** The ruler of Travancore decided to remain independent and Nizam of Hyderabad made a similar announcement the next day.
Reason (R): With the end of British rule in India, the paramountcy of the British crown over princely rulers also came to an end.
- a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true

When did the war between India and Pakistan take place?

- a) 1971
b) 1948
c) 1965
d) All of the above

When was the Socialist Party formed in India?

- a) 1948
b) 1955
c) 1969
d) 1952

Which conference led to the establishment of NAM?

- a) Belgrade conference
b) Bandung conference
c) Bhopal Conference
d) Manila conference

Assertion (A): After the second World War, the world was divided into Eastern Block and Western Block.

- Reason (R):** Western countries joined Eastern Block.
a) A and R are true and R is the correct explanation of A.
b) A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true

SECTION -D (12 MARKS)

24. Read the text carefully and answer the questions:

On the 15th August 1947, Mahatma Gandhi did not participate in any of the Independence Day celebrations. He was in Kolkata in the areas which were torn by gruesome riots between Hindus and Muslims. He was saddened by the communal violence and disheartened that the principles of ahimsa (non-violence) and satyagraha (active but non-violent resistance) that he had lived and worked for, had failed to bind the people in troubled times. Gandhiji went on to persuade the Hindus and Muslims to give up violence. His presence in Kolkata greatly improved the situation, and the coming of independence was celebrated in a spirit of communal harmony, with joyous dancing in the streets. Gandhiji's prayer meetings attracted large crowds. But this was short-lived as riots between Hindus and Muslims erupted once again and Gandhiji had to resort to a fast to bring peace. Finally, on 30 January 1948, one such extremist, Nathuram Vinayak Godse, walked up to Gandhiji during his evening prayer in Delhi and fired three bullets at him, killing him instantly.

1. Which of the following city Gandhiji was there on 15th August 1947?
 - a) Kolkata
 - b) Delhi
 - c) Mumbai
 - d) Chennai
 2. Which of the following killed Gandhiji on 30 January 1948?
 - a) Nathuram Singh
 - b) Diljeet Singh
 - c) Nathuram Godse
 - d) Nathuram Parikker
 3. What was the effect of the Gandhiji's death in Pakistan on subsiding of communal situation?
 - a) Magical
 - b) Neutral
 - c) Disastrous
 - d) None of these
 4. Which of the following is known as Iron Man of India?
 - a) Abdul Gaffar Khan
 - b) Sardar Patel
 - c) Mahatma Gandhi
 - d) Jawaharlal Nehru
25. In the given outline political map of India, four states have been marked as (A) (B) (C) and (D). Identify these states on the basis of the information given below and write their correct names in your answer book, along with their respective serial number of the information used and the concerned alphabets as per the following format :-
- i. The state for which Potti Sriramulu fast until death.
 - ii. The states where there was anti-Hindi agitation in 1965
 - iii. The State formed in 1966.
 - iv. The State related to Dairy Cooperative Movement under the name 'Amul'

28. Explain the role of the European Union as a supranational organisation.

OR

How does geographical proximity influence the formation of regional organisations?

29. Write an essay on caste oppressions and socio-economic inequalities among backward classes.

OR

State the main issues in Indian politics in the period after 1989. What different configurations of political parties these differences lead to?

30. Write a brief note on the background leading to the declaration of Emergency of June 1975 in India.

OR

What is Naxalite movement? Evaluate its role in Indian politics.



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Business Studies
Maximum Marks- 80

GENERAL INSTRUCTIONS:-

- This question paper contains 34 questions.
- Marks are indicated against each question.
- Answers should be brief and to the point.
- Answers to the questions carrying 3 marks may be from 50 to 75 words.
- Answers to the questions carrying 4 marks may be about 150 words.
- Answers to the questions carrying 6 marks may be about 200 words.

1. "Management has its own vocabulary of terms and concepts. Managers need to communicate with one another with the help of a common vocabulary for better understanding of their work situation."

Which characteristics of 'Management as a science' is highlighted in the above statement?

- a. Principles based on experimentation
- b. Systematised body of knowledge
- c. Universal validity
- d. Personalised application

[1]

2. Pioneer Ltd. is dealing in fruit juices and hair oils. To ensure unity of action and coordination it has made two separate divisions for each product. Each division has its own in-charge, plans, and execution resources. Thus both the divisions are moving towards the same objectives through focused efforts.

Identify the principle of management followed by Pioneer Ltd. in the above case.

- a. Espirit dé corps
- b. Equity
- c. Unity of direction
- d. Authority and Responsibility

[1]

3. Which of the following statement does not highlight the importance of financial planning?
- a. Detailed plans of action prepared under financial planning increase waste, duplication of efforts and gaps in planning.
 - b. It helps in forecasting what may happen in future under different business situations.
 - c. It provides a link between investment and financing decisions on a continuous basis.
 - d. It helps in avoiding business shocks and surprises and helps the company in preparing for the future.

[1]

4. Read the following statements carefully:

Statement I : Electronic holdings can be converted into physical certificates with the process of dematerialisation.

Statement II : There is no danger of theft loss or forgery of share certificates in dematerialisation.

In the light of the statements given above, choose the correct alternative from the following:

- a. Statement I is true and statement II is false
- b. Statement II is true and statement I is false
- c. Both statements are true
- d. Both statements are false

[1]

5. Using external sources for filling vacant positions

- (i) Gives a wider choice
- (ii) Simplifies the process of selection
- (iii) Instils a competitive spirit among the existing employees
- (iv) Does not infuse fresh talent in the organization

- a. (i) & (ii)
- b. (i) & (iii)
- c. (i), (iii) & (iv)
- d. (ii) & (iv)

[1]

6. In a recent ruling, the Supreme Court of India has ordered an immediate stop on commercial activities in a 500 m radius of the Taj Mahal and asked Agra Development Authority to ensure compliance of its directive.

Which dimension of business environment is reflected here?

- a. Social
- b. Technological
- c. Legal
- d. Political

[1]

7. Sarita bought a flat from Sugam Developers for Rs. 5 crore and was shocked to discover that the quality of construction was bad, roof leaked during the rainy season and plasters were coming off at various places, tiles were not fixed properly etc.

Which consumer forum should she approach for redressing her grievance?

- a. District Commission
- b. State Commission
- c. National Commission
- d. Supreme Court

[1]

8. Read the following statements: Assertion (A) and Reason (R).

Choose the correct alternative from those given below:

ASSERTION (A): Controlling can prevent deviations.

REASON (R): Controlling helps in minimising deviations by taking actions and decisions that reduce their recurrence.

- a. Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true, and Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true, Reason (R) is false.
- d. Assertion (A) is false, Reason (R) is true.

[1]

26. Name the mechanism that attempts to measure certain characteristics of individuals in the process of identifying and choosing the best person out of the number of prospective candidates for the job.

Enumerate any four types of the identified mechanism.

[4]

OR

Rahul has just completed his B.Tech. and joined a leading company manufacturing inverter. To capture 70% of the market, share the company is planning to enter into manufacturing of solar inverters. To achieve this target, it requires trained workforce. The Human Resource Manager asked Rahul to give any four benefits with the organization with reasons, for training the workforce. State the four points of benefits of trained workforce to the organization that might have been sent by Rahul in his reply to the Human Resource Manager.

27. Kunal joined as a shop level manager in the production department of a textile company in the year 2005. Because of his good work he became the deputy production manager of the company in the year 2010. He had status and prestige and was well respected by all in the company. On 1st march 2019 he was promoted as the General Manager of the company. Kunal was very happy on his promotion, as now he had become what he was capable of becoming. As a good manager, Kunal decided to motivate his subordinates, after understanding the need hierarchy theory which is based on various assumptions. He realised that people's behaviour is based on their needs and the manager can influence the behaviour of his employees by satisfying their needs.

a. One of the assumptions of need hierarchy theory is stated in the above paragraph, state the other three assumptions of this theory.

b. State the needs of Kunal which are being satisfied through promotion.

[4]

28. Explain how planning and controlling are both backward looking as well as forward looking functions.

[4]

OR

"Controlling is an indispensable function of management. Without controlling the best of plans can go awry". Do you agree? Explain any two reasons in detail in support of your answer.

29. Mega Ltd., holds an Annual Management Programme every year in the month of March in which the top managerial personnel formulate plans for the next year by analysing and predicting the future to meet future events effectively.

As they are responsible for providing direction to the organization, facts are thoroughly checked using scientific calculations. Detailed plans are prepared after discussion with professional experts. Preliminary investigations are also undertaken to find out the viability of the plan. Since, it is an intellectual activity requiring intelligent imagination and sound judgement, it is mainly done by the top management.

Usually rest of the members just implement the plans. Middle level managers are neither allowed to deviate from the plans nor are they permitted to act on their own. The top management ensures that the expenses incurred in formulating the plans justify the benefits derived from them.

State any two limitations and any two importance of planning discussed above.

[4]

30. Give any four points of differences between advertising and personal selling.

[4]

31. It was established by the Government of India on 12th April 1988 as an interim administrative body to promote orderly and healthy growth of the securities market and for investor protection. It was given statutory status in 1992 through an Act of parliament.
- Identify the regulatory body which has been highlighted above.
 - State the three objectives of the regulatory body identified in part (a).
 - State any two functions that are performed for the development of the securities market by the regulatory body identified in part (a).
- [6]
32. Diligent developers, a website design company in Bangalore is a startup initiative of Mr. Maniraj which aims at achieving a profit margin of 10% in its first year. Mr. Maniraj appointed Mr. Anil as the Digital Marketing Head, Mr. Rajesh as the Head of Backend Department and Mr. Nikhil headed the Graphics Design Department. Since each head was specialised in specific skills it resulted in increased efficiency and better coordination. However, problems arose when Mr. Anil started considering group objectives superior to organizational objectives and stopped exchanging information with Mr. Rajesh and Mr. Nikhil. The company had to bear the brunt of lack of coordination and was unable to achieve its objectives.
- Identify and explain the organizational structure adopted by the company.
 - State and explain any two benefits and two limitations of the identified structure highlighted in the above case.
- [6]

OR

"Delegation is the entrustment of responsibility and authority to another and the creation of accountability power for performance". In the light of this statement identify and explain the essential elements of delegation.

33. A famous cricket coach Akhil Nath was hired by Sports College, Jaipur to coach the college cricket team for a national level competition. In the first meeting itself the principal of the college announced that the players would enter into an agreement with the college. The agreement would state the reporting time for players on the field and other rules and regulations. Failure to obey the agreement and rules would lead to judicious application of penalties. It was also announced by the college principal that the players would receive orders from the coach, and they would all be responsible only to the coach to prevent confusion regarding tasks to be done. The coach was very determined to train the players to win as the entire responsibility was on his shoulders. He promoted the spirit of mutual trust and belongingness among the team members without which he felt it would be difficult to win. The players were also enthusiastic, and the training started in full swing.
- Identify and explain the three principles of management discussed in the above case.
- [6]
34. "The elements of marketing mix are popularly known as 4 p's of marketing". Explain in detail these elements of marketing mix.
- [6]

OR

Explain any four factors affecting determination of the price of a product or service.



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Psychology
Maximum Marks- 70

General Instructions:

- (i) All questions are compulsory except where internal choice has been given.
 - (ii) Question No. 1 -15 in Section A carry 1 mark each. You are expected to answer them as directed.
 - (iii) Question No. 16-21 in Section B are very short answer type-I questions carrying 2 marks each. Answer to each question should not exceed 30 words.
 - (iv) Question No. 22-24 in Section C are short answer type-II questions carrying 3 marks each. Answer to each question should not exceed 60 words.
 - (v) Question No. 25 - 28 in Section D are long answer type - I questions carrying 4 marks each. Answer to each question should not exceed 120 words.
 - (vi) Question No. 29-30 in Section E are long answer type - II questions carrying 6 marks each. Answer to each question should not exceed 200 words.
 - (vii) Question No. 31 – 34 in Section F are based on two cases given. Answer to each 1 mark question should not exceed 20 words. Answer to each 2 marks question should not exceed 30 words.
-

SECTION - A

1. Suryakant Nayar, a trained Ayurveda Doctor lives in Kerala is known for his knowledge of ancient medicines and always encourages people to opt for traditional methods of medicines and treatment, as mentioned in 'Charak Samhita'.
Identify which types of people are classified into it.
I. Vamdosh
II. Pittadosha
III. Vatadosha
IV. Kaphadosha Choose the correct option.
(a) I and II (b) II and III
(c) II, III and IV (d) II and IV
2. Mithu, a final year college student of Delhi University, is known as a 'problem solver' in her college. She not only co-relates student's emotions to her own thoughts but also helping them in taking right decisions about courses and job placements. What traits do you think Mithu possess?
(a) Emotionally Intelligent Person
(b) Emotionally Creative Person
(c) Powerful Influential Person
(d) Socially Influential Person
3. Which among the following factors, provides the context for the learning of attitudes through the processes?
I. Family and school environment II. Reference groups
III. Personal experiences IV. People's experiences Choose the correct option.
(a) I and II (b) II and III
(c) I, II and III (d) II and IV

4. Logotherapy is given by _____.
 (a) Victor Frankl (b) Sigmund Freud
 (c) Ivan Pavlov (d) Carl Rogers
5. Ramya while facing a job interview, was asked numerous questions regarding her qualifications, likes and dislikes, etc. She confidently gave answers regarding her qualities and skills and other characteristics. The type of identity Ramya possesses is called _____.
 (a) Special Characteristic Identity (b) Confident Characteristic Identity
 (c) Personal Identity (d) Subject Identity
6. In the following question, a statement of Assertion (A) is followed by a statement of the Reason (R). Mark the correct choice.
 Assertion (A) In systematic desensitisation client asked to think about the least anxiety-provoking situations.
 Reason (R) The client hence, learns to deal with fearful situations.
 Codes
 (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
 (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)
 (c) Assertion (A) is true, but Reason (R) is false
 (d) Assertion (A) is false, but Reason (R) is true
7. Name the Psychologist/Thinker who proposed the Two-step Theory.
 (a) Sigmund Freud (b) Ivan Pavlov
 (c) SM Mohsin (d) Fritz Heider
8. Which among the following is a dynamic situation-specific reaction to stress?
 (a) Meeting (b) Coping
 (c) Avoiding (d) Relieving
9. Hardik, a class 12th student from Modern School is such an all-rounder who is good in studies, sports and also in dance. He has also 10 scientific innovation patents in his name. Which among the following traits Hardik has as, suggested by the psychologists about 'giftedness' through the teachers' point of view?
 I. High ability
 II. High creativity
 III. High commitment
 IV. High observation
 Choose the correct option.
 (a) I and II (b) II and III
 (c) I, II and III (d) II and IV
10. A teacher influence students to develop a strong preference for a specific subject because of
 I. Positive association between a teacher and a student.
 II. Negative association between a teacher and a student.
 III. Neutral association between a teacher and a student.
 Codes
 (a) I and II (b) II and III (c) II only (d) I and III

11. Name the behaviour or skill that helps to communicate, clearly and confidently, our feelings, needs, wants, and thoughts.

(a) Time management	(b) Rational thinking
(c) Self-care	(d) Assertiveness

12. Sam is 19-year old athletic built ambitious swimmer. He has been selected for upcoming Asian Games and for that he is preparing hard. However his coach has found that Sam is bit distressed and not properly taking food or sound sleep. What is the best therapy suitable for him?

(a) Humanistic-existential therapy	(b) Psychoanalytical therapy
(c) Behaviour therapy	(d) Cognitive therapy

13. Radhika, a middle aged housewife lost his son in the car accident. He was immensely attached to his mother. Due to this trauma, Radhika started showing symptoms of delusion, and recalling years ago events as like it happened in recent days. Identify the disorder.

(a) Schizophrenia disorder	(b) Informal thought disorder
(c) Neurodevelopmental disorder	(d) Depression disorder

14. Intellectual disability refers to below average intellectual functioning with an IQ of approximately _____.

(a) 30 or below	(b) 50 or below
(c) 70 or below	(d) 90 or below

15. In the following question, a statement of Assertion (A) is followed by a statement of the Reason (R). Mark the correct choice.
 Assertion (A) An intelligence test may be fully verbal, fully non-verbal or fully performance-based, or it may consist of a mixture of items from each category.
 Reason (R) Raven's Progressive Matrices (RPM) Test is an example of a non-verbal test., Therefore, non-verbal tests can be administered only to illiterate people.
 Codes

(a) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A)	
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)	
(c) Assertion (A) is true, but Reason (R) is false	
(d) Assertion (A) is false, but Reason (R) is true	

SECTION - B

16. Rupam's term-end exams are about to start. Being a studious person he has well prepared and attended regular classes with good internal exams. However he is not able to properly sleep or take food on time due to examination stress. How examination stress can be characterised?

17. Jaqueline is very open minded teenage girl. She loves party, outing and enjoys being at the centre of attention among her peer group. Which personality characteristics associated with her?

18. What are the various approaches used to distinguish between normal and abnormal behaviour?

19. Technologically advanced societies adopt child rearing practices that foster skills of generalisation and abstraction, speed, minimal moves and mental manipulation among children. What type of behaviour, these societies promotes?

20. What is Oedipus Complex.
21. Write formation of attitude.

SECTION - C

22. How is Rational Emotive Therapy (RET) used in treating psychological disorders?
23. Explain the self-regulation theory. How it helps in mental health?

OR

Discuss type theory and discuss types of person traits possessed by Type-A & Type-B person in psychology?

24. What is autistic disorder? Also explain the difficulties faced by the children suffer with autism.

SECTION - D

25. What do you understand by Allport's Trait Theory? How it acknowledged the influence of situations on behaviour?
26. Joy, a hardworking content Editor is not feeling well due to prolonged office hours and immense pressure from the peer coordinators. Due to this he started developing anxiety and exhaustion and fallen seriously ill. Name and explain the psychological condition he is suffering with.

OR

Samantha, a 28 years old IT Professional has completely hectic day throughout the weekdays. Despite of the fact her neighbours get surprise as she never fails to go shopping or attend community club activities. Identify and explain the personality of Samantha.

27. Farhan is a teacher in the nearby Anger Management Institute. With the batch of 150 students, he teaches with live model examples. Even students are quite satisfied with his teaching methodology. One day they learnt that his teacher has filed divorce petition against his wife. Explain the attitude-behaviour relationship.

28. Describe impact of alcohol.

SECTION - E

29. What is PASS Model? How this model is comprised?

OR

Are there cultural differences in the conceptualisation of intelligence? Also explain technological intelligence.

30. What is Group polarisation? How does Tuckman's stage model help you to understand the formation of groups?

OR

What is Social loafing and why does it occurs?

SECTION - F

Read the case and answer the questions that follow.

As in the case of other mental and physical characteristics, such variations can be attributed to the complex interaction of heredity and environment. There is no disagreement that creativity is determined by both heredity and environment. Limits of the creative potential are set by heredity, environmental factors stimulate the development of creativity. How much of the creative potential can be realised, when and in what specific form and direction is largely determined by environmental factors such as motivation, commitment, family support, peer influences, training opportunities, etc. Although no amount of training can transform an average person to the level of Tagore, Shakespeare, etc. but it is also true that every individual can raise her/his level of creative potential beyond its present level.

31. What do you understand by creativity?
32. Limits of the creative potential are set by heredity, environmental factors stimulate the development of creativity. Explain.

Read the case and answer the questions that follow.

Schizophrenia is the descriptive term for a group of psychotic disorders in which personal, social and occupational functioning deteriorate as a result of disturbed thought processes, strange perceptions, unusual emotional states and motor abnormalities.

It is a debilitating disorder. The social and psychological costs of schizophrenia are tremendous, both to patients as well as to their families and society. Symptoms of schizophrenia can be classified as positive symptoms (i.e. excesses of thought, emotion, and behaviour), negative symptoms (i.e. deficits of thought, emotion, and behaviour), and psychomotor symptoms.

33. What are delusions?
 34. Explain two types of hallucinations.
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Geography
Maximum Marks-70

General Instructions:

Read the following instructions carefully and follow them:

- (i) This question paper contains 30 questions. All questions are compulsory.
- (ii) Question paper is divided into five sections A, B, C, D and E.
- (iii) Section A Question Nos. 1 to 17 are Multiple Choice type questions. Each question carries 1 mark.
- (iv) Section B Question Nos. 18 and 19 are Source-based questions. Each question carries 3 marks.
- (v) Section C Question Nos. 20 to 23 are Short Answer type questions. Each question carries 3 marks. Answer to these questions shall be written in 80 to 100 words.
- (vi) Section D Question Nos. 24 to 28 are Long Answer type questions. Each question carries 5 marks. Answer to these questions shall be written in 120 to 150 words.
- (vii) Section E Question Nos. 29 and 30 are Map-based questions. Each question carries 5 marks.
- (viii) There is no overall choice given in the question paper. However, an internal choice has been provided in few questions in all sections other than Sections A and B.

SECTION A

Question numbers 1 to 17 are Multiple Choice Type Questions.

[17x1=17]

1. Which among the following explains the equity concept of development? [1]
(A) Capabilities building in people
(B) Power to make choice
(C) Equal access to opportunities available to everybody
(D) Opportunities for future generation
2. Which one of the following features is correct regarding nomadic herding? [1]
(A) Nomadism is a modern commercial activity.
(B) It is practiced on permanent pastures.
(C) Nomadism is associated with modern technology.
(D) A wide variety of animals is kept in different regions.
3. There are two statements marked as Assertion (A) and Reason (R). Mark your answer as per the codes provided below. [1]
Assertion (A): Mediterranean regions were inhabited from early periods in history.
Reason (R): Plain areas are favourable for the production of crops and to build roads and industries.
Options:
(A) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(B) Both (A) and (R) are true and (R) is the correct explanation of (A).
(C) Both (A) and (R) are incorrect.
(D) (A) is correct but (R) is incorrect.

4. Arrange the following countries in sequence according to their rank in HDI 2021-22 from high HDI value to low HDI value. [1]
- Norway
 - Switzerland
 - Australia
 - Ireland
- Codes:**
- III, II, I, IV
 - II, I, III, IV
 - IV, III, II, I
 - I, IV, III, II
5. 'Retail trading' under which of the following activities? [1]
- Primary
 - Secondary
 - Tertiary
 - Quarternary
6. Which of the following statements are correct related to small scale manufacturing? [1]
- Choose the correct option.
- It uses simple power driven machines.
 - It relies on semi-skilled labour.
 - It uses local raw material.
 - Its products are sold in international markets.
- Options:**
- I, II, IV
 - I, II, III
 - I, III, IV
 - II, III, IV
7. Channel Tunnel, operated by Euro Tunnel Group through England, connects _____. [1]
- London with Paris
 - London with Berlin
 - London with Barcelona
 - London with Rome
8. Which of the following pairs is correctly matched? [1]
- | Name of the country | | Oil Port |
|---------------------|---|-----------|
| (A) Oman | - | Esskhira |
| (B) Venezuela | - | Aden |
| (C) Tunisia | - | Maracaibo |
| (D) Lebanon | - | Tripoli |
9. Which of the following is the most populous state of India? [1]
- Maharashtra
 - Uttar Pradesh
 - West Bengal
 - Bihar
10. Which of the following states has started the 'Neeru-Meeru' programme? [1]
- Rajasthan
 - Andhra Pradesh
 - Bihar
 - Karnataka

11. There are four distinct phases of population growth identified in India over the last one century. Identify the phase from the given description. [1]
This period is referred to as a period of stagnant or stationary phase of growth of India's population, since in this period growth rate was very low. Both the birth rate and death rate were high keeping the rate of increase low. Poor health and medical services, illiteracy of people at large and inefficient distribution system of food and other basic necessities were largely responsible for a high birth and death rates in this period.
(A) Phase I 1901-1921
(B) Phase II 1921-1951
(C) Phase III 1951-1981
(D) Phase IV post 1981 till present
12. Most of India's foreign trade is carried through_____. [1]
(A) Land and sea routes
(B) Land and air routes
(C) Sea and air routes
(D) Only sea routes
13. Arrange the following in correct sequence regarding generation of geothermal energy: [1]
(i) It is so hot that when it rises to the earth's surface, it turns into steam.
(ii) Groundwater in such areas (where the geothermal gradient is high) absorbs heat from the rocks and becomes hot.
(iii) This steam is used to drive turbines and generate electricity.
(iv) Geothermal energy exists, because the earth grows progressively hotter with increasing depth.
(A) (ii) - (i) - (iv) - (iii)
(B) (iv) - (ii) - (i) - (iii)
(C) (i) - (iv) - (iii) - (ii)
(D) (iii) - (ii) - (iv) - (i)
14. Which one of the following is the easternmost station of the East-West corridor? [1]
(A) Guwahati
(B) Kolkata
(C) Imphal
(D) Silchar

Study the given figure and answer the following questions no. 15 - 17
Decadal Growth Rates in India, 1901-2011

Census Years	Total Population	Growth Rate*	
		Absolute Number	% of Growth
1901	238396327	-----	-----
1911	252093390	(+) 13697063	(+) 5.75
1921	251321213	(-) 772117	(-) 0.31
1931	278977238	(+) 27656025	(+) 11.60
1941	318660580	(+) 39683342	(+) 14.22
1951	361088090	(+) 42420485	(+) 13.31
1961	439234771	(+) 77682873	(+) 21.51
1971	548159652	(+) 108924881	(+) 24.80
1981	683329097	(+) 135169445	(+) 24.66
1991	846302688	(+) 162973591	(+) 23.85
2001	1028610328	(+) 182307640	(+) 21.54
2011**	1210193422	(+) 181583094	(+) 17.64

* Decadal growth rate: $g = \frac{P_2 - P_1}{P_1} \times 100$
where P_1 = population of the base year
 P_2 = population of the present year
** Source : Census of India, 2011(Provisional)

15. Which year has seen a negative population growth rate in India? [1]
 (A) 1931
 (B) 1921
 (C) 1911
 (D) 1941
16. How much population increase has been registered between the census years 1901 to census year 2011? [1]
 (A) 900789600
 (B) 182307640
 (C) 181583094
 (D) 971797095
17. Which year has recorded the highest growth of population in India in terms of absolute numbers? [1]
 (A) 2001
 (B) 2011
 (C) 1991
 (D) 1981

SECTION B

Question numbers 18 and 19 are Source-based Questions.

[2x3=6]

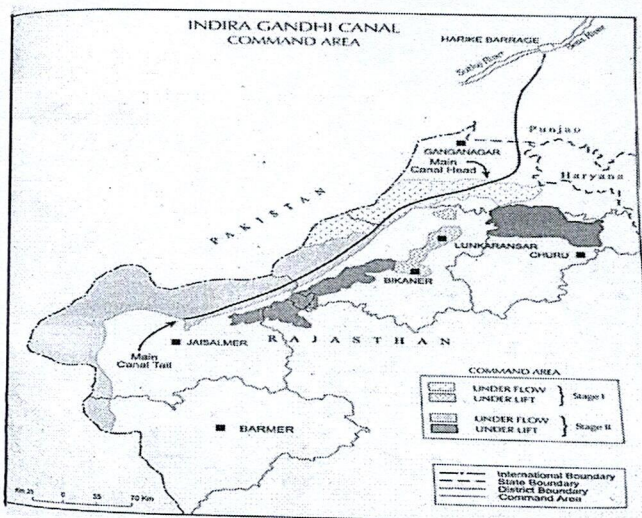
18. Read the passage carefully and answer the questions that follow: [3x1=3]

Manufacturing involves a full array of production from handicrafts to moulding iron and steel and stamping out plastic toys to assembling delicate computer components or space vehicles. In each of these processes, the common characteristics are the application of power, mass production of identical products and specialized labour in factory settings for the production of standardised commodities. Manufacturing may be done with modern power and machinery or it may still be very primitive. Most of the Third World countries still 'manufacture' in the literal sense of the term. It is difficult to present a full picture of all the manufacturers in these countries. More emphasis is given to the kind of 'industrial' activity which involves less complicated systems of production.

- (I) Which economic activities are concerned with manufacturing?
 (II) Which countries still manufacture in the literal sense of term?
 (III) "Manufacturing involves value addition." Explain.

19. Observe the given map and answer the questions that follow:

[3x1=3]



- (I) Name the canal and mention the year in which it was launched.
- (II) What is the difference between the two areas shown as 'Under Flow' and 'Under Lift' system of irrigation?
- (III) Name any two districts that are benefitted by the command area of canal in Stage - I.

SECTION C

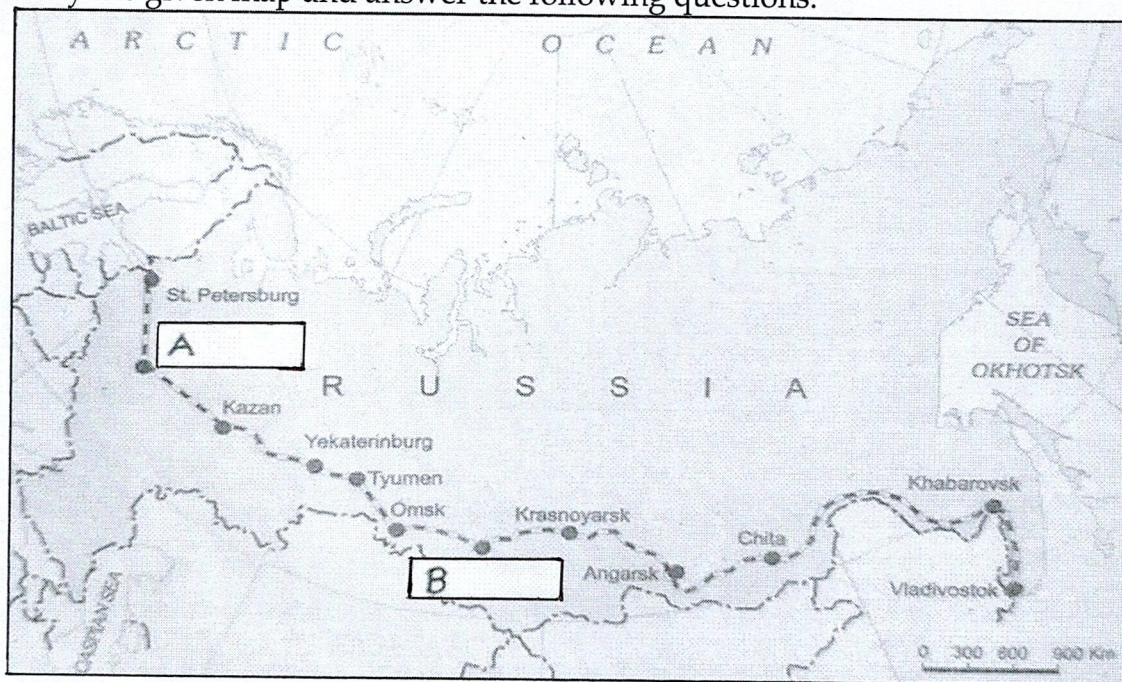
Question numbers 20 to 23 are Short Answer Type Questions. [4x3=12]

20. "The physical and human phenomena are described in metaphors using symbols from human anatomy." Support the statement with examples. [3]

OR

"Human beings were able to develop technology after they developed better understanding of natural laws." Evaluate the statement in the context of naturalisation of humans.

21. Study the given map and answer the following questions: [1+1+1=3]



- (I) Name this trans-continental railway line?
 - (II) Name the stations marked as 'A' and 'B'.
 - (III) How has this railway line helped in the economic development of this region?
22. How is the difference in national resources a basis of international trade? Explain with three examples. [3]
23. How have modern towns developed in India? Explain with examples. [3]

SECTION D

Question numbers 24 to 28 are Long Answer Type Questions. [5x5=25]

24. Define the term 'Density of Population'. Explain four geographical factors influencing the distribution of population in the world. [5]
25. A. "Dairy farming is the most advanced and efficient type of rearing of milch animals in the world." Analyse the statement with examples. [5]

OR

B. Explain any five features of 'plantation agriculture' in the world.

26. A. "India has one of the second largest road networks in the world". Support the statement with examples. [5]

OR

B. Classify means of communications on the basis of scale and quality into two categories. Explain any two characteristics of each category.

27. A. How lack of commercialisation and degradation of cultivable land are the two major problems of Indian agriculture? [5]

OR

B. Explain with examples how modern agriculture technology has brought a significant increase in agriculture output in India.

28. A. Explain any five objectives of 'Namami Gange Programme'. [5]

OR

B. Explain the causes and consequences of air pollution.

SECTION E

Question numbers 29 & 30 are Map based questions having 5 sub-parts each. [2x5=10]

29. On the given political map of the world, seven geographical features have been marked as A, B, C, D, E, F and G. Identify any five with the help of the following information and write their correct names on the lines drawn near each feature. [5]

(A) A major sea port

(B) An international airport

(C) A canal connects the Mediterranean Sea and the Red Sea

(D) An area of nomadic herding in Africa

(E) An important airport of Asia

(F) An area of subsistence gathering in South America

(G) An area of commercial livestock rearing

30. Locate and label any five of the following geographical features on the Political Outline map of India with appropriate symbols: [5]

(A) An important sea port in Odisha

(B) An important coal mine in Tamil Nadu

(C) Bailadila - iron ore mines

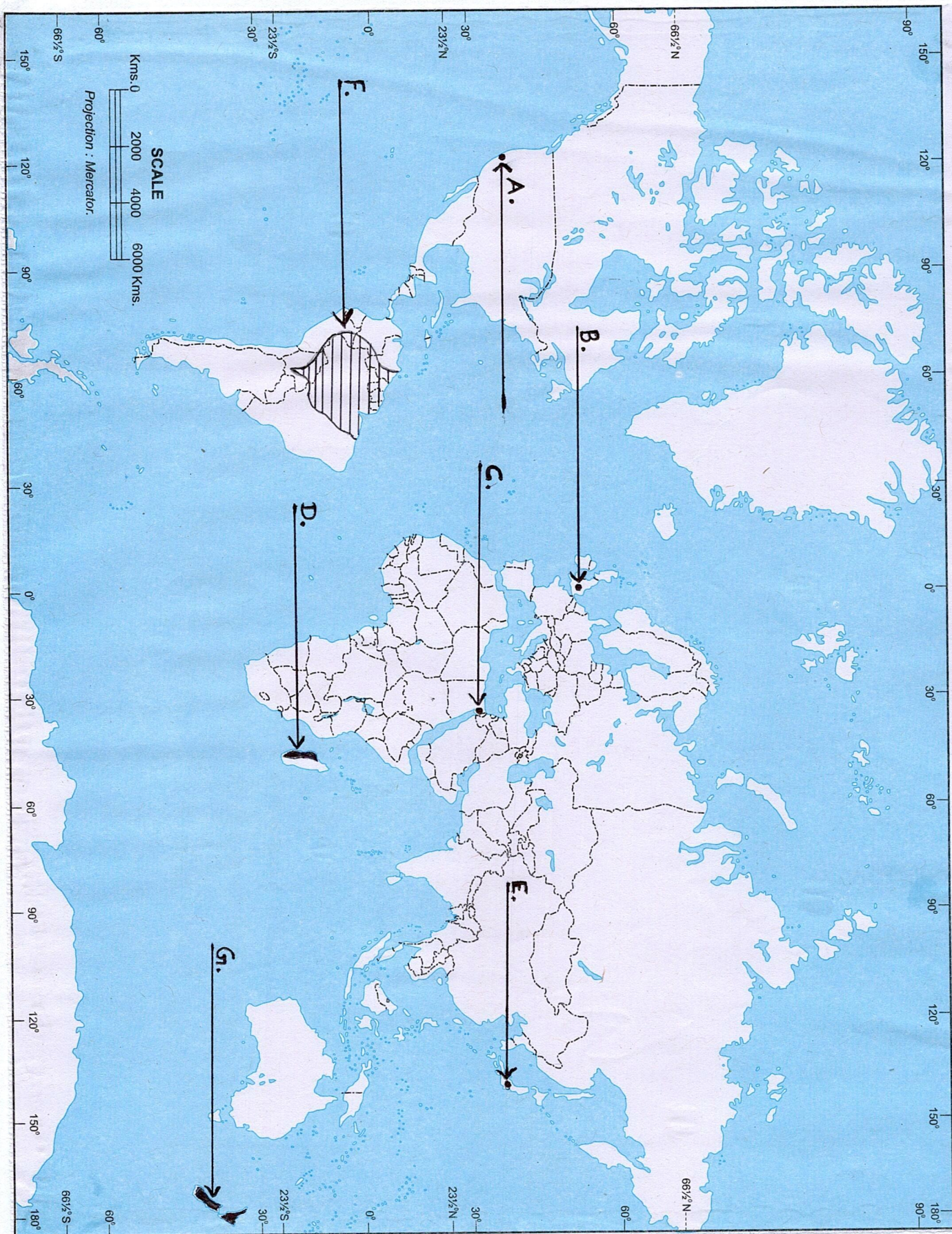
(D) An oil refinery in Bihar

(E) The state with lowest population density

(F) The state leading in the production of cotton

(G) An international airport in Karnataka

THE WORLD - POLITICAL







DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Sociology
Maximum Marks- 80

General Instructions

1. The question paper is divided into four sections.
2. There are 35 questions in all. All questions are compulsory.
3. Section A includes question No. 1-16. These are objective type questions.
4. Section B includes question No. 17-25. These are very short answer type questions carrying 2 marks each. Answer to each question should not exceed 30 words.
5. Section C includes question No. 26-32. These are short answer type questions carrying 4 marks each. Answer to each question should not exceed 80 words. Question no. 26 and 27 are case based questions with 4 parts each carrying 1 mark, making the questions of 4 marks each.
6. Section D includes question No. 33-35. They are long answer type questions carrying 6 marks each. Question No. 33 is to be answered on the basis of image provided. Answer to each question should not exceed 200 words each. Question no 35 is to be answered with the help of the passage given.

SECTION - A

1. **Assertion (A):** Influenza is caused by a virus that attacks mainly the upper respiratory tract - the nose, throat, and bronchi and rarely also the lungs.
Reason (R): World War I did not cause the flu, the close quarters and mass movement of troops quickened its spread.
 - (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A.
 - (c) A is true but R is false.
 - (d) A is false but R is true.
2. Which among the following is not the use of demographic data?
 - (a) Economic development
 - (b) Planning of policies
 - (c) Private welfare
 - (d) Implementation of policies
3. The tribal language spoken by Indian tribes does not include____
 - (a) Tibeto-Burman
 - (b) Zulu
 - (c) Dravidian
 - (d) Indo-Aryan

4. **Assertion (A):** Caste involves a system consisting of many castes arranged in a hierarchy of rank and status.
Reason (R): Every person has a caste, and every caste has a specified place in the hierarchy of all castes.
- (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A.
 - (c) A is true but R is false.
 - (d) A is false but R is true.
5. **Assertion (A):** Kothari argued that the institutions of the state have been captured by elites.
Reason (R): The electoral representation by political parties is no longer an effective way for the poor to get their voices heard.
- (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A.
 - (c) A is true but R is false.
 - (d) A is false but R is true.
6. Who among the following has proposed against polygamy at the All India Muslim Conference?
- (a) Rokiya Sekhawati Hussain
 - (b) Sir Syed Ahmed Khan
 - (c) Maulana Kadri
 - (d) Jahan-Ara Shah Nawaz
7. A complete and effective movement to provide good and more food in the agricultural system is known as .
- (a) White Revolution
 - (b) Land Demarcation
 - (c) Green Revolution
 - (d) Land Consolidation
8. **Assertion (A):** Hindus constitute an overwhelming majority in India.
Reason (R): The Hindu population is four times larger than the combined population of all other minority religions, and about six times larger than the largest minority group, the Muslims.
- (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A.
 - (c) A is true but R is false.
 - (d) A is false but R is true.
9. Cultural diversity can present tough challenges. Which of the following is not a reason for challenge?
- (a) It can arouse intense passions among its member and mobilise large numbers of people.
 - (b) Economic and social inequalities among the communities.
 - (c) Equal distribution of scarce resources like river water, Jobs or government funds.
 - (d) Injustices suffered by one community provoke opposition from same communities.

10. **Assertion (A):** The poems of Kabir synthesising Hindu and Muslim devotion are cherished symbols of pluralism.
Reason (R): Kabir Das was a 15th Century Indian mystic poet and saint, whose writings influenced Hinduism's Bhakti movement, and his verses are found in Sikhism's scriptures Guru Granth Sahib.
- Both A and R are true and R is the correct explanation of A.
 - Both A and R are true but R is not the correct explanation of A.
 - A is true but R is false.
 - A is false but R is true.
11. The _____ process involves a continuous dialogue, negotiation, and even struggle against significant others like our parents, family, kin group and our community. Our community provides us the language and the cultural values through which we comprehend the world. It also anchors our self-identity.
- socialisation
 - privatisation
 - constitutional
 - liberalisation
12. **Assertion (A):** Urbanisation in the colonial period saw the formation of new urban centres.
Reason (R): These urban centres were designed to function as trading posts alone.
- Both A and R are true and R is the correct explanation of A.
 - Both A and R are true but R is not the correct explanation of A.
 - A is true but R is false.
 - A is false but R is true.
13. Which of the following statements is true for the tea plantations established by the British India?
- The colonial administrators were clear that the measures taken on the plantation for labourers was different vis-à-vis the planters.
 - Coolies lived a comfortable life on the tea plantations.
 - Planters and coolies had a cordial relationship
 - Colonial administration stuck to democratic norms.
14. Major difference between developing country and developed countries is in the number of people in----- salaried employed in developed country.
- Daily wages
 - Regular
 - Irregular
 - Both B and C
15. Which sociologists among the following argues that the use of machines reduces the efficiency of workers?
- Emile Durkheim
 - Karl Marx
 - Harry Braverman
 - John Breman

16. **Assertion (A):** Social movements of Dalits cannot be explained satisfactorily by reference to economic exploitations alone or political oppression.

Reason (R): There is a struggle for recognition as fellow human beings, self - confidence, and space for self - determination.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

SECTION -B

17. Colonialism was certainly a far more traumatising experience for colonial subjects than their colonizers. They suffered poverty, malnutrition, disease, cultural upheaval, economic exploitation, political disadvantage and systematic programs aimed at creating a sense of social and racial inferiority. While some may argue that any suffering on the part of the British colonial list ought to be met with the little sympathy, this is not a reason to obscure it from history.

Read the source and answer the following question.

State any two structural changes brought by colonialism.

OR

Cultural diversity is the quality of diverse or different cultures as opposed to monoculture, the global monoculture, or a homogenization of cultures. Akin to cultural evolution, the term cultural diversity can also refer to having different cultures respect each others differences.

Read the source and answer the following question.

What is meant by cultural diversity?

18. What are the factors behind Kerala's mixed economy?

19. Why is the rising dependency ratio a cause for worry in countries that are facing the aging population?

20. Which type of disabilities were removed by Untouchability Offences Act 1955?

21. How tribal people could be encouraged to get education?

22. Why is it necessary to reduce the birth rate in India?

23. How has Industrialization affected mutual relationships.

OR

What are the main objectives of liberalisation?

24. What is community identity?

25. What is the upper caste response to the increasing visibility of both Dalits and other backward classes?

SECTION - C

26. What are the effects of Industrialization on society.

27. Explain the three key principles of a system by which categories of people in a society are ranked in a hierarchy.

OR.

How would you distinguish prejudice from other kinds of opinion or belief?

28. During a communal conflict, communities construct matching but opposite mirror images of each other. Explain this statement.
29. The Green Revolution was a period that began in the 1960s, during which agriculture in India was converted into a modern industrial system by the adoption of technology such as the use of high yielding variety (HYV) seeds, mechanised farm tools, irrigation facilities, pesticides and fertilizers.
- What are the positive impacts of Green Revolution?
 - The Green Revolution led to regional inequalities. Give examples.

OR

Redemptive social movement. Aims to bring about a change in the personal consciousness and actions of its individual members. For instance, people in the Izhawa community in Kerala were led by Narayan Guru to change their social practices.

- What is Transformatory social movement?
 - What do you know about reformist social movements?
30. Work in the IT sector is also subjected to Taylorised labour processes. Substantiate this statement with a suitable example.

OR

After independence, the government took over the commanding heights of the economy. What were the initiatives taken by the government to do the same?

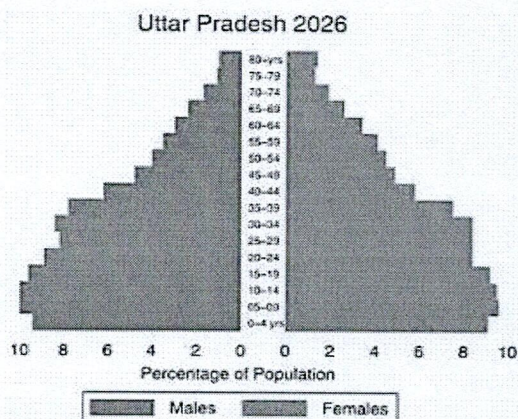
31. What forces and factors threaten the unity of India today?
32. Describe some of the policies designed to address caste inequality.

OR

Caste is an all encompassing system. Discuss.

SECTION- D

33. Read the given image and answer the following questions:



- Analyse the population pyramid of a developing country as shown in this figure.
 - Which of the groups has the highest proportion of the given population pyramid and why?
 - Why population pyramid has a narrow top?
34. Describe the Ecological movements of India.

OR

Explain the famous tribal movement which resulted in the formation of a separate state.

35. Read the text carefully and answer the questions:

Social stratification is supported by patterns of belief, or ideology. No system of social stratification is likely to persist over generations unless it is widely viewed as being either fair or inevitable. The caste system, for example, is justified in terms of the opposition of purity and pollution, with the Brahmins designated as the most superior and Dalits as the most inferior by virtue of their birth and occupation. Not everyone, though, thinks of a system of inequality as legitimate. Typically, people with the greatest social privileges express the strongest support for systems of stratification such as caste and race.

- i. Caste system is based on inequality. Justify your answer. (4)
 - ii. What do you mean by the term 'Stereotype'? (2)
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Mathematics (Applied)
Maximum Marks - 80

General Instructions:

1. This Question paper contains - **five sections A, B, C, D and E**. Each section is compulsory. However, there are internal choices in some questions.
2. **Section A** has 18 MCQ's and 02 Assertion-Reason based questions of 1 mark each.
3. **Section B** has 5 Very Short Answer (VSA)-type questions of 2 marks each.
4. **Section C** has 6 Short Answer (SA)-type questions of 3 marks each.
5. **Section D** has 4 Long Answer (LA)-type questions of 5 marks each.
6. **Section E** has 3 source based/case based/passage based/integrated units of assessment (4 marks each) with sub parts.

SECTION-A (1X20=20 MARKS)

1. The value of $5 \odot_8 11$, where \odot is multiplication modulo is
(A) -1 (B) 0 (C) 7 (D) 9
2. In a 300 m race, A beats B by 22.5 m or 6 seconds. B's time over the race course is
(A) 80 sec (B) 82 sec (C) 76 sec (D) 90 sec
3. If the matrix $A = \begin{bmatrix} 0 & a & -3 \\ 2 & 0 & -1 \\ b & 1 & 0 \end{bmatrix}$ is skew symmetric, then the values of a and b are
(A) 3, -2 (B) 2, -3 (C) -2, 3 (D) -3, 2
4. Inferential statistics is a process that involves all of the following except
(A) estimating a parameter (B) estimating a statistic
(C) test a hypothesis (D) analyse relationships
5. If A is a square matrix of order 3 and $|A| = -2$, then $|adj(A)|$ is
(A) -8 (B) -2 (C) 0 (D) 4
6. The function $f(x) = a^x$ is increasing on \mathbb{R} , if
(A) $a > 0$ (B) $a < 0$ (C) $0 < a < 1$ (D) $a > 1$
7. The demand function of a toy is, $x = 75 - 3p$ and its total cost function is $TC = 100 + 3x$. For maximum profit, the value of x is
(A) 33 (B) 31 (C) 29 (D) 24
8. The point on the curve $y^2 = x$, where tangent make an angle of $\frac{\pi}{4}$ with the x -axis is
(A) $(\frac{1}{2}, \frac{1}{4})$ (B) $(\frac{1}{4}, \frac{1}{2})$ (C) (4, 2) (D) (1, 1)

9. $\int e^x \left(\frac{1-x}{1+x^2} \right)^2 dx$ is equal to

- (A) $\frac{e^x}{1+x^2} + C$ (B) $-\frac{e^x}{1+x^2} + C$ (C) $\frac{e^x}{(1+x^2)^2} + C$ (D) $-\frac{e^x}{(1+x^2)^2} + C$

10. The value of $\int_{-1}^1 \frac{e^x}{e^x + e^{-x}} dx$ is

- (A) 2 (B) 0 (C) -1 (D) 1

11. Integrating factor of the differential equation $(1-x^2) \frac{dy}{dx} + xy = ax$ is

- (A) $\frac{1}{1-x^2}$ (B) $\frac{1}{\sqrt{1-x^2}}$ (C) $-\frac{1}{\sqrt{1-x^2}}$ (D) $\frac{a}{\sqrt{1-x^2}}$

12. A discrete random variable X has the probability distribution given below:

X	0.5	1	1.5	2
P(X)	k	k ²	2k ²	k

The value of k is

- (A) -1 (B) $\frac{1}{2}$ (C) $\frac{1}{3}$ (D) 0

13. If we reject the null hypothesis, we might be making:

- (A) Type-I error (B) Type-II error (C) A correct decision (D) A wrong decision

14. A statement made about a population parameter for testing purpose is called

- (A) statistic (B) parameter (C) hypothesis (D) level of significance

15. Moving average method is used for measurement of trend when

- (A) Trend is linear (B) Trend is non-linear
(C) Trend is curvilinear (D) None of these

16. The present value of perpetuity of Rs.600 payable at end of every 6 months be Rs. 10,000. The rate of interest is

- (A) 10% (B) 12% (C) 6% (D) 12.5%

17. Mr. Sharma took a car loan of Rs. 10 lakhs at an 11% interest for a 15 years loan tenure. What would be his EMI [Given $(1.0091)^{180} = 5.1069$]:

- (A) 11000(approx.) (B) 11300(approx.) (C) 11316(approx.) (D) 11320(approx.)

18. The declared rate of return compounded semiannually which is equivalent to 10.25%, effective rate of return, is

- (A) 10.13% (B) 10.05% (C) 10% (D) 9.89%

ASSERTION - REASONING TYPE QUESTIONS

Statement I is called Assertion (A) and Statement II is called Reason (R). Read the given statements carefully and choose the correct answer from the options given below:

- a) Both the Statements are true and Statement II is the correct explanation of Statement I.
b) Both the Statements are true and Statement II is not the correct explanation of Statement I.
c) Statement I is true, Statement II is false.
d) Statement I is false, Statement II is true.

19. The corner points of the feasible region for an LPP are (4, 0), (5, 0), (5, 3), (3, 5), (0, 5) and (0, 4). The objective function $Z = ax - by + 1900$, $a, b > 0$ has maximum value 1950 at (5, 0) and minimum value 1550 at (0, 5).
- Statement I :** The value of Z at point (5, 3) = 300.
- Statement II :** $a = 10$, $b = 70$.
20. **Statement I :** Rohan and Saurya are two equally capable tennis players. Probability that Saurya will beat Rohan in 3 games out of 4 is 25%.
- Statement II :** The probability of r successes in n trials, denoted by $P(X = r)$ is given by $P(X = r) = {}^n C_r p^r q^{n-r}$; $r = 0, 1, 2, \dots, n$, where p denotes success and q denotes failure in each trial.

SECTION B (2 X 5 = 10 Marks)

21. How many kg of wheat costing Rs. 8 per kg must be mixed with 36 kg wheat costing Rs. 5.40 per kg so that 20% gain may be obtained by selling the mixture at Rs. 7.20 per kg ?
- OR,**
- Find the ratio of swimming speed of Ram in still water to speed of river, if ratio of time taken to go 10 km upstream to time taken to go 10 km downstream is 11:5 ?
22. A runs $1\frac{3}{4}$ times as fast as B. If A gives B a start of 84 m, how far must winning post be, so that A and B might reach it at the same time ?
23. Tap P alone fills a cistern in 2 hours, while tap Q alone fills the same cistern in 3 hours. A new tap R is attached to the bottom of the cistern which can empty the completely filled cistern in 6 hours. Sneha started all three taps together at 9 a.m. When will the tank be full?
24. For a certain type of laptops the charging time of batteries is normally distributed with mean 50 hours and standard deviation 15 hours. Utkarsh has one of these laptops. Find the probability that the charging time of battery will be between 50 and 70 hours.

OR,

A car hire firm has two cars, which it hires, out day by day. The number of demands for cars on each day is distributed as a Poisson distribution with mean 1.5. Calculate the probabilities of days on which neither car is used and the probabilities of days on which some demand is refused. [$e^{-1.5} = 0.2231$].

25. If $\begin{bmatrix} 1 & 0 & 0 \\ 0 & y & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} x \\ -1 \\ z \end{bmatrix} = \begin{bmatrix} 1 \\ 2 \\ 1 \end{bmatrix}$, find $2x - 3y + 4z$.

SECTION -C (3 X 6 = 18 Marks)

26. Find the last digit of 17^{17} .
27. A 95% confidence interval for a population mean was reported to be 152 to 160. If $\sigma = 15$, what sample size was used in this study ?

OR,

The average heart rate for Indians is 72 beats per minute. To lower their heart rate, a group of 25 people participated in an aerobics exercise programme. The group was tested after six months to see if the group had significantly slowed their heart rate. The average heart rate for the group was 69 beats/minute with a standard deviation of 6.5. Was the aerobics programme effective in lowering heart rate? (Given $\alpha = 0.05$).

28. It is known that 3% of plastic buckets manufactured in a factory are defective. Using the Poisson distribution on a sample of 100 buckets, find the probability of
- Zero defective buckets.
 - At most one bucket is defective (Use $e^{-3} = 0.049$).
29. Suresh invested Rs. 20000 in a mutual fund in 2019. The value of mutual fund increased to Rs. 32000 in year 2024. Calculate the compound annual growth rate of his investment.
30. Two tailors P and Q earn Rs. 150 and Rs. 200 per day respectively. P can stitch 6 shirts and 4 trousers a day, while Q can stitch 10 shirts and 4 trousers per day. How many days should each work to produce at least 60 shirts and 32 trousers at minimum labour cost?
31. A class has 15 students whose ages are 14, 17, 15, 14, 21, 17, 19, 20, 16, 18, 20, 17, 16, 19 and 20 years. One student is selected in such a manner that each has the same chance of being chosen and the age X of the selected student is recorded. What is the probability of the random variable X ? Find the mean.

OR,

Assume that on an average, one telephone out of 5 is busy. Ten telephone numbers are randomly selected and called. Find the probability that atleast three of them will be busy.

SECTION -D (5 x 4 = 20 Marks)

32. Fit a straight line trend by the method of least square for the following data. Also, tabulate the trend values.

Year	2004	2005	2006	2007	2008	2009	2010
Profit (Rs '000)	114	130	126	144	138	156	164

OR,

The average number, in lakhs, of working days lost in strikes during each year of the period (1981 - 1990) was as under :

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1.5	1.8	1.9	2.2	2.6	3.7	2.2	6.4	3.6	5.4

Calculate the three-yearly moving average and draw the moving average graph.

33. Solve the following system of equations by Cramer's rule:

$$\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4, \frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1 \text{ and } \frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2.$$

OR,

Given two matrices A and B where $A = \begin{bmatrix} 1 & -2 & 3 \\ 1 & 4 & 1 \\ 1 & -3 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 11 & -5 & -14 \\ -1 & -1 & 2 \\ -7 & 1 & 6 \end{bmatrix}$, find AB and use this result to solve the following system of equations:

$$x - 2y + 3z = 6, x + 4y + z = 12, x - 3y + 2z = 1.$$

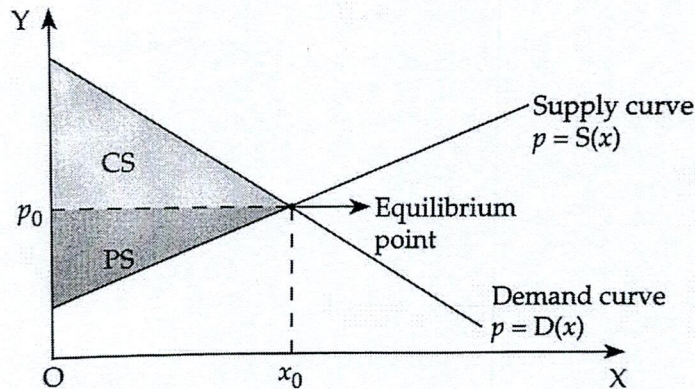
34. Show that the altitude of the right circular cone of maximum volume that can be inscribed in a sphere of radius r is $\frac{4r}{3}$. Also, show that the maximum volume of the cone is $\frac{8}{27}$ of the volume of the sphere.

35. Mr. Sharma exchanged his old car valued at Rs. 1,50,000 with a new one priced at Rs. 6,50,000. He paid Rs. x as down payment and the balance in 20 monthly equal installments of Rs. 21,000 each. The rate of interest offered to him is 9% p.a. Find the value of x . (given that $(1.0075)^{-20} = 0.86118985$)

SECTION - E (4 X 3 = 12 Marks)

Case Study -1

36.



The graph given above showing the demand and supply curves of a mobile phone company are linear. When the price of a mobile phone was Rs. 16000 per unit, Singh mobiles sold 20 units every month and when price dropped to Rs. 10000 per unit, Singh mobiles sold 80 units every month. When the price was Rs. 16000 per unit, 155 mobiles were available per month for sale and when the price was only Rs. 10000 per unit, 35 mobiles remained.

Based on the above information, answer the following questions:

- | | |
|---|-----|
| (i) Find the demand function. | [1] |
| (ii) Find the supply function. | [1] |
| (iii) Find the consumer surplus at (65, 11500). | [2] |

OR,

Find the producer surplus at (65, 11500).

Case Study -2

37. In order to fulfill the wish to purchase a new car, Anaya takes a loan of Rs. 5,00,000 from a bank at an interest rate of 6% p.a. for 10 years. She wants to pay back the loan in equated monthly installments

Based on the above information, answer the following questions:

- | | |
|---|-----|
| (i) Find the EMI by using flat rate method. | [2] |
| (ii) Find the EMI by reducing balance method [Given that $(1.005)^{-120} = 0.54963$] | [2] |

Case Study -3

38. A fruit grower can use two types of fertilizer in his garden, brand P and brand Q . The amounts (in kg) of Nitrogen, Phosphoric acid, Potash and Chlorine in a bag of each brand are given in the table. Tests indicate that the garden needs at least 240 kg of Phosphoric acid, at least 270 kg of Potash and at most 310 kg of Chlorine.

Kg per bag		
	Brand P	Brand Q
Nitrogen	3	3.5
Phosphoric Acid	1	2
Potash	3	1.5
Chlorine	1.5	2

Based on the above information, answer the following questions:

- (i) Write the objective function to minimize the amount of Nitrogen added to the garden. [1]
- (ii) If the grower wants to minimise the amount of Nitrogen added to the garden, how many bags of brand P should be used? [2]
- OR,**
- If the grower wants to minimize the amount of Nitrogen added to the garden, how many bags of brand Q should be used?
- (iii) What is the minimum amount of Nitrogen added? [1]
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI PRE-BOARD - I (Session 2024-25)

Class - XII
Time - 3 Hours

Subject - Mathematics (core)
Maximum Marks - 80

General Instructions:

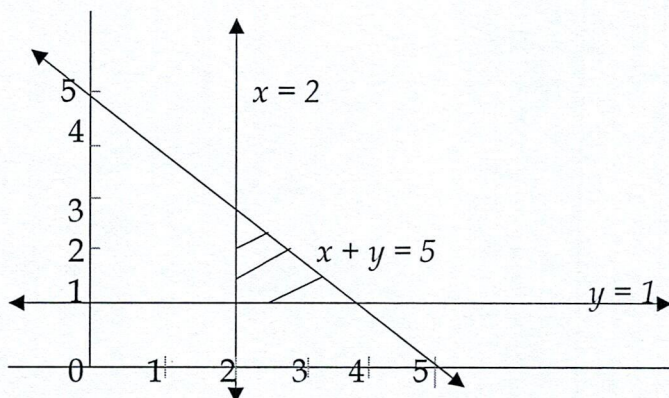
1. This question paper contains - five sections A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.
2. Section A has 18 MCQ's and 2 Assertion Reason based questions of 1 mark each.
3. Section B has 5 Very Short Answer (VSA) type questions of 2 marks each.
4. Section C has 6 Short Answer (SA) type questions of 3 marks each.
5. Section D has for long answer LA type questions of 5 marks each.
6. Section E has 3 source based / case based / passage-based / integrated units of assessment (4 marks each) with sub-parts.

SECTION A

(Multiple Choice Questions)
Each question carries 1 mark

1. Let $f: Z \rightarrow Z$ be defined as $f(x) = x^3$. Choose the correct option.
a) f is one-one onto
b) f is one-one but not onto
c) f is many-one onto
d) f is neither one-one nor onto.
2. Find the value of $\cos \left[\frac{\pi}{3} - \sin^{-1} \left(-\frac{1}{2} \right) \right]$
a) 2
b) 3
c) 0
d) 1
3. $\sin \left\{ \tan^{-1} \left(\frac{y}{3} \right) \right\}$ is equal to
a) $\frac{\sqrt{9+y^2}}{9}$
b) $\frac{\sqrt{9+y^2}}{3}$
c) $\frac{3}{\sqrt{9+y^2}}$
d) $\frac{y}{\sqrt{9+y^2}}$
4. If X, Y and XY are matrices of order 3×2 , $m \times n$ and 3×7 respectively, then number of elements in matrix Y is
a) 14
b) 6
c) 21
d) 9
5. If A and B are two square matrices of order 2 and $|A| = 3$ and $|B| = 4$, then $|2AB|$ is
a) 24
b) 48
c) 96
d) 14
6. Let $y = f\left(\frac{1}{x}\right)$ and $f'(x) = x^3$. What is the value of $\frac{dy}{dx}$ at $x = \frac{1}{3}$?
a) $-\frac{1}{243}$
b) $-\frac{1}{81}$
c) -81
d) -243
7. The interval, in which $y = x^2 e^{-x}$ is increasing, is
a) $(-\infty, \infty)$
b) $(-2, 0)$
c) $(2, \infty)$
d) $(0, 2)$
8. $\int \frac{x-3}{(x-1)^3} e^x dx$ is equal to
a) $\frac{2e^x}{(x-1)^3} + C$
b) $\frac{-2e^x}{(x-1)^2} + C$
c) $\frac{e^x}{x-1} + C$
d) $\frac{e^x}{(x-1)^2} + C$
9. The value of $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} (x^3 + x \cos x + \tan^5 x + 1) dx$ is
a) 0
b) 2
c) π
d) 1

10. If $f(a+b-x) = f(x)$, then $\int_a^b xf(x)dx$ is equal to
 a) $\frac{a+b}{2} \int_a^b f(b-x)dx$ b) $\frac{a+b}{2} \int_a^b f(b+x)dx$ c) $\frac{b-a}{2} \int_a^b f(x)dx$ d) $\frac{a+b}{2} \int_a^b f(x)dx$
11. The general solution of the differential equation $\frac{dy}{dx} = e^{x+y}$ is
 a) $e^x + e^{-y} = C$ b) $e^x + e^y = C$ c) $e^{-x} + e^y = C$ d) $e^{-x} + e^{-y} = C$
12. What is the value of $\frac{\text{projection of } \vec{b} \text{ on } \vec{a}}{\text{projection of } \vec{a} \text{ on } \vec{b}}$ for vectors $\vec{a} = 2\hat{i} - 3\hat{j} - 6\hat{k}$ and $\vec{b} = 2\hat{i} - 2\hat{j} + \hat{k}$
 a) $\frac{3}{7}$ b) $\frac{7}{3}$ c) $\frac{4}{3}$ d) $\frac{4}{7}$
13. If for non-zero vectors \vec{a} and \vec{b} , $\vec{a} \times \vec{b}$ is a unit vector and $|\vec{a}| = |\vec{b}| = \sqrt{2}$, then angle θ between vectors \vec{a} and \vec{b} is
 a) $\frac{\pi}{2}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{6}$ d) $\frac{-\pi}{2}$
14. Direction cosines of the line $\frac{2x-1}{3} = \frac{2-y}{5}, z = 4$ are
 a) $(\frac{3}{\sqrt{109}}, \frac{-10}{\sqrt{109}}, 0)$ b) $(\frac{3}{\sqrt{109}}, \frac{10}{\sqrt{109}}, 0)$ c) $(\frac{3}{\sqrt{109}}, \frac{-10}{\sqrt{109}}, \frac{1}{\sqrt{109}})$ d) $(\frac{3}{\sqrt{34}}, \frac{-5}{\sqrt{34}}, 0)$
15. If a line makes angles 45° and 60° with x and y axis respectively, then the obtuse angle which it makes with z -axis is
 a) $\frac{\pi}{3}$ b) $\frac{2\pi}{3}$ c) $\frac{\pi}{6}$ d) $\frac{5\pi}{6}$
16. If A and B are two independent events such that $P(A) = 0.4$ and $P(B) = 0.3$, then $P(A \cup B)$ is
 a) 0.7 b) 0.6 c) 0.58 d) 0.42
17. The corner points of the bounded feasible region determined by system of linear constraints are $(2, 5)$, $(1, 3)$, $(6, 3)$ and $(0, 4)$. Let objective function be $Z = px + qy, p, q > 0$. If Z has same value at $(2, 5)$ and $(6, 3)$, then if $p = kq$ then the value of k is
 a) 2 b) $\frac{1}{2}$ c) -2 d) $-\frac{1}{2}$
18. The feasible region corresponding to the linear constraints of a linear programming problem is given as



which of the following is **not** constraint to the given linear programming problem

- a) $x \geq 2$ b) $x + y \geq 5$ c) $y \geq 1$ d) $y \geq 0$

ASSERTION - REASON BASED QUESTIONS

In the following questions a statement of **Assertion (A)** is followed by a statement of **Reason (R)**. Choose the correct answer out of the following choices.

- a) Both A and R are true and R is the correct explanation of A.
 b) Both A and R are true, but R is not the correct explanation of A
 c) A is true, but R is false.
 d) A is false, but R is true.

19. **Assertion (A)** : Continuous function is always differentiable.

Reason (R) : Differentiability of a real valued real function means smoothness of the curve.

20. **Assertion (A)**: Order of the Ordinary differential equation associated with a curve $y = e^{\alpha x}(\cos \beta x + \sin \beta x)$ is two.

Reason (R) : Order of the ordinary differential equation = Number of the arbitrary constants involved in the curve.

SECTION B

This section is comprised of very short answer type questions (VSA) of 2 marks each.

21. Express the matrix $A = \begin{bmatrix} 2 & -2 & -4 \\ -1 & 3 & 4 \\ 1 & -2 & -3 \end{bmatrix}$ as the sum of a symmetric and a skew symmetric matrix.

OR,

Find a matrix A such that $A \begin{bmatrix} 4 & 0 \\ -1 & -2 \end{bmatrix} = \begin{bmatrix} 17 & 10 \\ 0 & -16 \end{bmatrix}$

22. Three straight lines $a_1x + b_1y + c_1 = 0$, $a_2x + b_2y + c_2 = 0$ and $a_3x + b_3y + c_3 = 0$ are

concurrent i.e. all pass through the same point, if $\begin{vmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{vmatrix} = 0$. For which value of λ , this set of three lines $4x + \lambda y + 4 = 0$, $-2x + 3y + 1 = 0$ and $x + y + 1 = 0$ are concurrent?

23. If the position vector of three points A, B and C are $2\hat{i} + 4\hat{j} - \hat{k}$, $\hat{i} + 2\hat{j} - 3\hat{k}$, and $3\hat{i} + \hat{j} + 2\hat{k}$, respectively, then find a vector perpendicular to the plane ABC.

24. Find the vector equation of the line passing through the point $(1, 2, -4)$ and perpendicular to the lines $\frac{x-8}{3} = \frac{y+19}{-16} = \frac{z-10}{7}$ and $\frac{x-15}{3} = \frac{y-29}{8} = \frac{z-5}{-5}$.

25. A die is thrown three times. Events A and B are defined as below:

A: 4 on the third throw

B: 6 on the first and 5 on the second throw.

Find the probability of A, given that B has already occurred.

SECTION C

This section is comprised of short answer type questions (SA) of 3 marks each

26. Determine the value of a , b and c , for which the function

$$f(x) = \begin{cases} \frac{\sin(a+1)x - \sin x}{x}, & \text{if } x < 0 \\ c, & \text{if } x = 0 \\ \frac{\sqrt{x+bx^2} - \sqrt{x}}{b\sqrt{x^3}}, & \text{if } x > 0 \end{cases} \quad \text{is continuous at } x = 0.$$

OR,

Show that the greatest integral function is not differentiable at any integer.

27. Integrate $\int \frac{2x-1}{(x-1)(x-2)(x-3)} dx$,

OR

Integrate $\int \left\{ \frac{1}{\log x} - \frac{1}{(\log x)^2} \right\} dx$,

28. Find the area lying above x-axis and included between the curves $(x - 4)^2 + y^2 = 16$ and $y^2 = 4x$.

[Note : Circle centred at the point (α, β) and radius r is $(x - \alpha)^2 + (y - \beta)^2 = r^2$]

29. Find the projection of a vector $3\hat{i} - \hat{j} + 2\hat{k}$ along a vector perpendicular to vectors $6\hat{i} - 4\hat{j} + 2\hat{k}$ and $\hat{i} + \hat{j} + 2\hat{k}$.

30. Find shortest distance between the lines $\vec{r} = (\hat{i} + 2\hat{j} + \hat{k}) + \lambda(\hat{i} - \hat{j} + \hat{k})$ and $\vec{r} = (2\hat{i} - \hat{j} - \hat{k}) + \mu(2\hat{i} + \hat{j} + 2\hat{k})$.

31. Solve the following linear programming problem graphically

Minimise: $Z = 6x + 7y$

Subject to the constraints

$$x + 2y \geq 240$$

$$3x + 4y \leq 620$$

$$2x + y \geq 180.$$

$$x, y \geq 0$$

SECTION D

This section is comprised of long answer type questions (LA) of 5 marks each.

32. If $y = e^{kt}(A \cos pt + B \sin pt)$, then show that $\frac{d^2y}{dt^2} - 2k \frac{dy}{dt} + (p^2 + k^2)y = 0$.

OR

Differentiate the function $y = (x \cos x)^x + (x \sin x)^{\frac{1}{x}}$ and find $\frac{dy}{dx}$.

33. Evaluate the definite integral $\int_0^\pi \frac{x \tan x}{\sec x + \tan x} dx$.

34. Assume that the chances of a patient having a heart attack is 40%. It is also assumed that a meditation and yoga courses reduce the risk of heart attack by 30% and prescription of certain drug reduces its chance by 25%. At a time, a patient can choose any one of the two options with equal probabilities. It is given that after going through one of the two options, the patient selected at random suffers a heart attack. Find the probability that the patient followed a course of meditation and yoga.

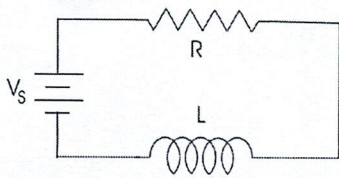
35. A relation R is defined on a set of integer Z . An integer x is divided by a natural number 3, which leads to a remainder either of 0, 1 or 2. Thus entire set of integers Z is partitioned into three distinct classes
 $[3k] =$ Set of those integers, which is a multiple of 3 = Set of integers which give remainder 0.
 $[3k + 1] =$ Set of integers which is 1 more than multiple of 3 = Set of integers which give remainder 1.
 $[3k + 2] =$ Set of integers which is 2 more than multiple of 3. = Set of integers which give remainder 2.
 These partitions are known as Equivalence classes. Express these equivalence classes in roster form. Here we can verify that two integers, x and y from any class are said to be related, as their difference is a multiple of 3. In fact, any number x from the set Z , is related to its residue r because
 $\text{Dividend} - \text{Remainder} = \text{Quotient} \times \text{Divisor} \Rightarrow$ for any integer $x, x - r = 3q$.
 So xRr i.e. $(x, y) \in R$. Show that the relation R is an equivalence relation. Are these classes mutually disjoint and exhaustive? Justify your answer.

SECTION E

This section is comprised of 3 case - study / passage-based questions of 4 marks each with four sub - parts carrying 1 mark each.

36. Case - Study 1: Read the following and answer the questions given below.

When a potential difference E is applied across an inductor of inductance L and a resistor with resistance R in series, through a cell of emf E , voltage drop across the register is $I \times R$, i.e. product of the current I and resistance R , as per Ohm's law.



Electric flux linked with electric current varies directly with the current strength I . i.e. $\Phi \propto I$
 Also, we know that, Rate of change of electric flux causes proportional amount of back emf caused by electro-magnetic induction to counter the change, which leads to the induction current I . So $V = -\frac{d\Phi}{dt} = L \frac{dI}{dt}$

Hence Voltage across inductor + Voltage across resistor = Supplied voltage ($V_s = E$).

$$L \frac{dI}{dt} + IR = E.$$

Now answer the following questions:

- i) Express the final ordinary differential equation in standard form of first order, first degree.
- ii) Find the integrating factor for this ordinary differential equation?
- iii) Find the general solution of current growth in the circuit.

[Use $E/R = I_0$ = peak value of the current, in the general solution]

OR

- iv) In the beginning, $t = 0$ i.e. at just switching on condition, initially current is zero i.e. $I = 0$. So find the Particular solution.

37. A point $P(x, y, z)$ of a rectangular cartesian space in three-dimensional system is viewed differently by changing the basis vector \hat{i}, \hat{j} and \hat{k} , into a new cartesian system with basis vectors $(a_1\hat{i} + a_2\hat{j} + a_3\hat{k})$, $(b_1\hat{i} + b_2\hat{j} + b_3\hat{k})$ and $(c_1\hat{i} + c_2\hat{j} + c_3\hat{k})$ which is expressed in

transformation matrix form as $\begin{bmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{bmatrix}$ and observed the point into a new form as

(x', y', z') . We express it mathematically $\begin{bmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} x' \\ y' \\ z' \end{bmatrix}$.

Here coefficient of \hat{i}, \hat{j} and \hat{k} are written in column form. As per this rule, suppose in a new system of basis vectors comprised of $(\hat{i} + 2\hat{j} + 3\hat{k})$, $(2\hat{i} + 3\hat{j} - \hat{k})$ and $(-3\hat{i} + 2\hat{j} - 4\hat{k})$, the same point $P(x, y, z)$ is viewed and observed as $(-4, 2, 11)$. Now answer the following:

- i) Express this transformation in above displayed matrix form.

- ii) Find the product of given Transformation matrix $\begin{bmatrix} 1 & 2 & -3 \\ 2 & 3 & 2 \\ 3 & -3 & -4 \end{bmatrix}$ with adjoining

matrix $\begin{bmatrix} -6 & 17 & 13 \\ 14 & 5 & -8 \\ -15 & 9 & -1 \end{bmatrix}$. What is the determinant of the given Transformation matrix

- iii) Find the point $P(x, y, z)$ which correspond the transformed point $(-4, 2, 11)$ through the applied change of basis vectors. [Use inverse of the matrix method on matrix form obtained in (i).]

38. An Apache helicopter of enemy is flying along the curve given by $y = x^2 + 7$. A soldier, placed at $(3, 7)$ wants to shoot down the helicopter, when it is nearest to him.

- i) Find an expression representing the distance of helicopter from the position of the soldier in terms of x . Tangent on the optimizing function at the point of optimization, is parallel to the X -axis. i.e. $\tan \theta = 0 \Rightarrow \frac{dy}{dx} = 0$. Solution of this equation is called 'critical point'. So find the critical point for it.
- ii) Analyze the critical point for minimum distance and find the nearest point and its distance.



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Physical Education
Maximum Marks - 70

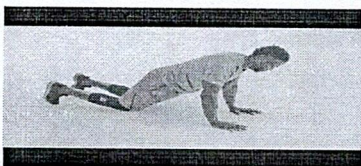
GENERAL INSTRUCTIONS:-

- The question paper consists of 5 sections and 37 Questions.
- Section A consists of questions 1-18 carrying 1 mark each and is multiple choice question. All questions are compulsory.
- Section B consist of questions 19-24 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. Attempt any 5.
- Section C consist of questions 25-30 carrying 3 marks each and are short answer type and should not exceed 100-150 words. Attempt any 5.
- Section D consist of questions 31-33 carrying 4 marks each and are case studies.
- Section E consist of question 34-37 carrying 5 marks each and are short answer types and should not exceed 200-300 words. Attempt any 3.

SECTION - A

1. Identify the exercise given below:

(1)



- a) Partial Curl Up b) Push Up c) Modified Push Up d) Chin Up

2. What is the main aim under instrumental aggression?

(1)

- a) Physical Harm b) Earn more money c) Achieve a goal d) Insult the opponent

3. Special seeding is a method of seeding in which certain players of the team participate in the _____.

(1)

- a) Quarter final b) Semifinal c) Both (a) & (b) d) None of the above

4. How many byes will be there in a fixture of 10 teams in Knock-out Tournament?

(1)

- a) 6 b) 5 c) 8 d) 3

5. It is a disease in which bone weakening increase the risk of a broken bone.

(1)

- a) Measles b) Osteoporosis c) Atherosclerosis d) Beriberi

6. Given below are two statements, labeled as Assertion (A) and reason (R).

(1)

Assertion (A): Lordosis is treatable by doing Tadasana and Bhujangasana

Reason (R): These asanas strengthen the muscles and help in maintaining the balance of the body.

In the context of the above two statements, which one of the following is correct.

- Both A and R are true and R is the correct explanation of A
- Both A and R are true, but R is not the correct explanation of A
- A is true but R is false
- A is false but R is true

7. Which of the following is an example of an Intramural Competition? (1)
 a) National Athletics Championship
 b) Inter school Badminton tournament
 c) Sports day within a School
 d) International Swimming meet
8. _____ is also known as Channeled aggression. (1)
 a) Hostile Aggression
 b) Assertive Aggression
 c) Instrumental Aggression
 d) None of the Above
9. The Johnson - Methney test of motor education is primarily used to assess: - (1)
 a) Cognitive abilities
 b) Motor skills
 c) Emotional Intelligence
 d) Academic performance
10. Which of the following is a personality trait included in the "Big Five"? (1)
 a) Ambivert
 b) Introverts
 c) Motivator
 d) Openness
11. Match the following: (1)
- | | |
|---------------|-------------------|
| List I | List II |
| A. Knock knee | 1. Halasana |
| B. Bow legs | 2. Padahasthasana |
| C. Lordosis | 3. Padmasana |
| D. Flat foot | 4. Rope skipping |
- Codes**
- | | | | |
|------|---|---|---|
| A | B | C | D |
| a) 3 | 1 | 2 | 4 |
| b) 2 | 1 | 4 | 3 |
| c) 4 | 2 | 1 | 3 |
| d) 1 | 3 | 2 | 4 |
12. _____ is a form of running in which the runner usually changes the pace according to the surroundings significantly during the run. (1)
 a) Continuous training
 b) Interval Training
 c) Fartlek training
 d) None of the above
13. _____ is an injury that results in an irregular break in the skin, more commonly referred to as a cut. (1)
 a) Fracture
 b) Contusions
 c) Abrasion
 d) Laceration
14. Which of the following procedure is not used for drawing up fixtures for a Knock out tournament? (1)
 a) Bye
 b) Staircase
 c) Special Seeding
 d) Seeding
15. _____ is the ability to perform smooth and accurate movements involving different parts of the body (1)
 a) Differentiation
 b) Coordination
 c) Rhythm
 d) Adaptation

16. How many disability categories are in Paralympics game? (1)
 a) 7 b) 8 c) 9 d) 10
17. If a person has a BMI of 23.2, the person is _____. (1)
 a) Under Weight b) Normal weight c) Over weight d) Obese
18. Which type of motivation refers to behaviour drives by external rewards such as money, fame, grades and praise? (1)
 a) Competence motivation b) Extrinsic motivation
 c) Intensive motivation d) None of the above

SECTION B

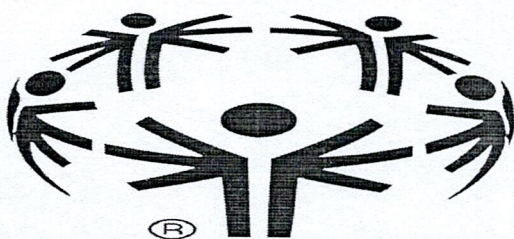
19. Enlist any two exercise guidelines by WHO for different age group. (2)
20. Mention the test performed on 9 to 18 years of age group in SAI Khelo India fitness test. (2)
21. Describe the second-class lever with suitable example from sports. (2)
22. Differentiate between extroverts and introverts. (2)
23. List any four advantages of physical activities of CWSN. (2)
24. Enlist the four methods of reducing friction. (2)

SECTION C

25. What are the health problem face by a woman due to female athlete triad in its sports and athletic performance? (3)
26. How we can enhance the performance with the help of self-talk and self-esteem? (3)
27. Comment on the concept of 'Talent Identification' and 'Talent Development'. (3)
28. Explain the responsibilities of any six committees during sports competition. (3)
29. Describe any six physiological changes due to ageing. (3)
30. Imagine you are a physical Education teacher at a school with diverse group of students, including Children with special Needs (CWSN). You are tasked with designing a physical activity programme that is inclusive and accessible for all students. Explain six strategies you would implement to ensure that physical activity is accessible for CWSN. (3)

SECTION - D

31. On the basis of the picture given below answer the following questions. (4)



i) Which Games does the above given logo represent?

- a) Paralympics
- b) Commonwealth Game
- c) Formula F1
- d) Special Olympics

ii) The pioneer of the Special Olympics was

- a) Eunice Mary Kennedy Shriver
- b) Rosemary Kennedy
- c) Maria Shriver
- d) Sargent Shriver

iii) Where was the first edition of these games held?

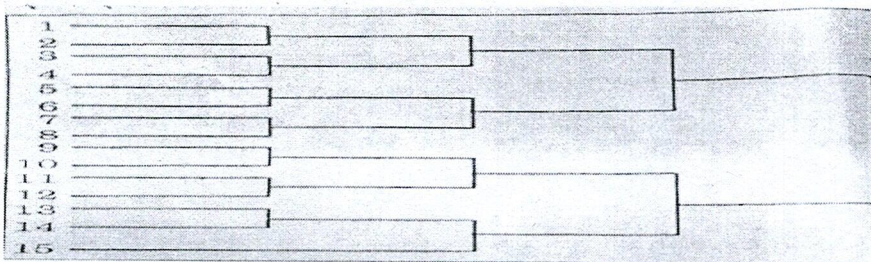
- a) Texas
- b) Chicago
- c) Paris
- d) Rome

iv) What does the raised arm in the given logo represents?

- a) Strength
- b) Stability
- c) Unity
- d) Joy

32. Study the fixture given below:

(4)

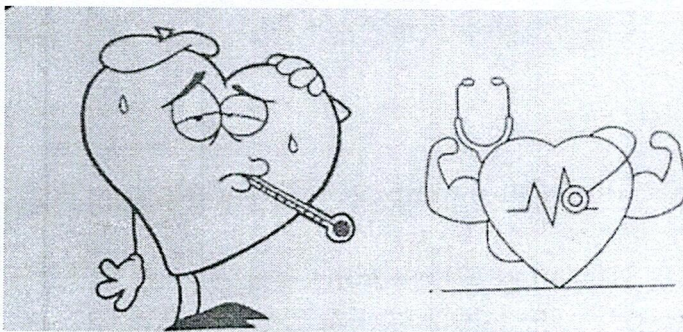


On the basis of the above study and your knowledge, answer the following questions

- a) According to the above fixture total number of rounds will be
- b) As shown in the fixture if the winner team plays least number of matches, then which number of team is the winner?
- c) What is the formula for calculating number of matches in Knockout tournament?
- d) If 19 team are participating in a knock out tournament then how many Byes will be given to draw a knock - out fixture?

33. On the basis of the picture given below answer the following questions.

(4)



- i) What is the primary effect of exercise on Cardio respiratory system?
 - a) Decreased heart rate
 - b) Increased Stroke volume
 - c) Decreased Lung capacity
 - d) Decreased blood pressure
- ii) What is stroke volume?
 - a) The volume of Blood ejected by the heart per minute
 - b) The volume of blood in the ventricles at the end of diastole.
 - c) The volume of Blood ejected by the heart per beat
 - d) The volume of Blood pumped by the heart during the exercise.

iii) Cardiac output is:-

- a) The volume of Blood ejected by the heart per minute
- b) The volume of blood in the ventricles at the end of diastole.
- c) The volume of Blood ejected by the heart per beat
- d) The volume of Blood pumped by the heart during the exercise.

iv) Blood pressure is:-

- a) The volume of Blood ejected by the heart per minute
- b) The force exerted by blood against the wall of arteries.
- c) The rate of Blood flow through the veins
- d) The amount of oxygen carried by red blood cells

SECTION -E

- 34. State the various type of fractures and explain them. (5)
 - 35. Discuss the various type of macro nutrients, importance and their sources. (5)
 - 36. Differentiate between isometric and isotonic exercises with suitable exercises. (5)
 - 37. Explain the procedure for performing Matasyasana and its benefits. (5)
-



DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Chemistry
Maximum Marks- 70

GENERAL INSTRUCTIONS:

Read the following instructions carefully and strictly follow them :

1. This question paper contains 33 questions. All questions are compulsory.
2. This question paper is divided into FIVE sections : A, B, C, D and E.
3. In SECTION A - Q. No. 1 to 16, are Multiple Type Questions, carrying 1 mark each.
4. In SECTION B- Q. No. 19 to 21, are very short answer questions carrying 2 marks each.
5. In SECTION C - Q. No. 22 to 28 are short answer questions carrying 3 marks each.
6. In SECTION D - Q. No. 29 and 30 are case based questions carrying 4 marks each.
7. In SECTION E- Q. No. 31 and 33 are long answer type questions carrying 5 marks each.
8. Use of log tables and calculators are not allowed.

SECTION A

The Following Questions are multiple-choice questions, with one correct answer. Each question carries 1 mark.

1. Dissolving 120gm of urea (molecular mass = 60 gm/mol) in 1000gm of water gave a solution of density 1.15 gm/ml. The molarity of the solution is :
 - a. 2.05 M
 - b. 1.75 M
 - c. 2.25 M
 - d. 2.50 M
2. If three Faraday's of electricity is passed through the solution of AgNO_3 , CuSO_4 and AuCl_3 , the molar ratio of the cations deposited at the cathodes will be :
 - a. 1 : 1 : 1
 - b. 1 : 2 : 3
 - c. 3 : 2 : 1
 - d. 6 : 3 : 2
3. The half life period of a first order reaction, is 15 minutes. The amount of substance left after one hour will be :
 - a. $1/4$ of the original value
 - b. $1/16$ of the original amount
 - c. $1/8$ of the original amount
 - d. $1/32$ of the original amount
4. In which of the following pairs both the ions are coloured in aqueous solution ?
 - a. Sc^{3+} , Ti
 - b. Sc^{3+} , Co^{2+}
 - c. Ni^{2+} , Cu^{+}
 - d. Ni^{2+} , Ti^{3+}

5. Which of the following molecule is not tetrahedral ?
- $[\text{Pt}(\text{en})_2]^{2+}$
 - $[\text{Ni}(\text{CO})_4]$
 - $[\text{Zn}(\text{NH}_3)_4]^{2+}$
 - $[\text{NiCl}_4]^{2-}$
6. Among the ligands NH_3 , en, CN^- & CO, the correct order of field strength is :
- $\text{NH}_3 < \text{en} < \text{CN}^- < \text{CO}$
 - $\text{CN}^- < \text{NH}_3 < \text{CO} < \text{en}$
 - $\text{en} < \text{CN}^- < \text{NH}_3 < \text{CO}$
 - $\text{CO} < \text{NH}_3 < \text{en} < \text{CN}^-$
7. The reactivity order of the following molecules towards SN^1 reaction is :
- I. Allyl chloride II. Chlorobenzene III. Ethyl chloride
- $\text{I} > \text{II} > \text{III}$
 - $\text{I} > \text{III} > \text{II}$
 - $\text{II} > \text{I} > \text{III}$
 - $\text{III} > \text{I} > \text{II}$
8. Determine the product formed when 2, 2- dimethyl-3- bromobutane reacts with ethanol at high temperature :
- 2, 3 - dimethyl but 2- ene
 - 3, 3-dimethyl but -1-ene
 - 3-ethoxy -2, 3-dimethyl butane
 - 3 - ethoxy - 2,2- di methyl butane
9. Treatment of acyl chloride, Grignard reagent and CdCl_2 gives ----- a final product.
- Aldehydes
 - Ketones
 - Aromatic Ketones
 - Benzaldehyde
10. Ethanol is converted into ethanal by :
- Catalytic hydrogenation
 - Treatment with LiAlH_4
 - Treatment with Pyridine chlorochromate.
 - Treatment with KMnO_4
11. Which of the following statement is false about primary amines ?
- Alkyl amines are stronger bases than ammonia.
 - Alkyl amines are stronger bases than aryl amines.
 - Alkyl amines react with nitrous acid to produce alcohol.
 - Aryl amines react with nitrous acid to produce phenol.
12. Benzene sulphonyl chloride is a chemical which can be used to identify the class of an Amine. When amine 'A' reacts with Benzene sulphonyl chloride, it gives precipitate of sulphonamide, which is soluble in alkali. The amine 'A' is
- N-Ethyl ethanamine.
 - N, N - Diethyl ethanamine.
 - Ethanamine.
 - N- methyl aniline.

Direction : For (question numbers 13 to 16) in the following questions as Assertion (A), is followed by a corresponding Reason (R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below:

- A) Both Assertion & Reason are true and Reason is correct explanation of Assertion.
- B) Both Assertion and Reason are true, but Reason is not the correct explanation of the Assertion.
- C) Assertion is true, but Reason is false.
- D) Assertion is false, but Reason is true.

13. **Assertion (A):** The half life for a zero order reaction is independent of the initial concentration of the reactant.

Reason: For a zero order reaction, Rate =K.

14. **Assertion (A):** Separation of Zr & Hf is difficult.

Reason (R): Zr & Hf lie in the same group of periodic table.

15. **Assertion (A):** Inversion of configuration is observed in S_N2 reaction.

Reason (R): The reaction proceeds with the formation of carbocation.

16. **Assertion (A):** Gabriel phthalimide reaction is used to prepare all amines whether it is primary / secondary / tertiary.

Reason (R): Aromatic primary amines cannot be prepared by this reaction.

SECTION B

17. What type of deviation from Raoult's law is shown by the mixture of ethanol & acetone ? Write your answer with explanation.

18. For a reaction , the rate law expression is represented as follows : Rate = $K[A][B]^{1/2}$

(a) Interpret whether the reaction is elementary or complex. Give reason to support your answer.

(b) Write the units of rate constant for this reaction.

19. Using Valence bond theory, explain the hybridization, shape and calculate magnetic moment of the complex $[Mn(CN)_6]^{4-}$ (Atomic Number Mn =25).

OR

Explain $[Co(NH_3)_6]^{3+}$ is an inner orbital complex, whereas $[Ni(NH_3)_6]^{2+}$ is an outer orbital complex.

20. Write the equation for the following reactions :

(i) Salicyclic acid is treated with acetic anhydride in the presence of conc H_2SO_4 .

(ii) Tertiary butyl chloride is treated with Sodium ethoxide.

21. (i) Distinguish between the following compounds by suitable chemical test :

$CH_3COCH_2CH_3$ and $CH_3CH_2CH_2CHO$.

(ii) Write the chemical reaction for Rosenmund reduction.

SECTION: C

22. (i) The molar conductance of an electrolyte reaches to the maximum value at infinite dilution, Why ?

(ii) Calculate the λ_m^0 for Cl^- ion from the data given below :

$\Lambda_m^0 (MgCl_2) = 258.6 \text{ scm}^2\text{mol}^{-1}$

$\lambda_m^0 Mg^{2+} = 106 \text{ scm}^2 \text{mol}^{-1}$

[1+2]

23. The decomposition of A into product has values of K as $4.5 \times 10^3 \text{ s}^{-1}$ at 10°C and energy of activation 60 KJ/mol . At what temperature would K be $1.5 \times 10^4 \text{ s}^{-1}$? ($\log 3.33 = 0.5224$)

OR

Decomposition of H_2O_2 follows a first order reaction. In 50 minutes, the concentration of H_2O_2 decreases from 0.5 to 0.125 M, in one such decomposition. If the concentration of H_2O_2 reaches 0.05 M, then calculate the rate of formation of O_2 . ($\log 4 = 0.6021$).

24. (i) Write the IUPAC name of the complex $[\text{Pt}(\text{NH}_3)_2\text{Cl}(\text{NO}_2)]$.
(ii) Draw structure of geometrical isomers of $[\text{Fe}(\text{NH}_3)_2(\text{CN})_4]^-$
(iii) Why low spin tetrahedral complexes are not formed?
25. Account for the following :
(i) Haloarenes are extremely less reactive towards nucleophilic substitution reaction.
(ii) n-Butyl bromide has higher boiling point than tertiary butyl bromide.
(iii) The treatment of alkyl chloride with aq KOH leads to the formation of alcohol but in presence of alcoholic KOH, alkene is the major product.
26. (i) Arrange the following in the decreasing order of their pK_b values :
 $\text{C}_6\text{H}_5\text{NH}_2$, $(\text{C}_2\text{H}_5)_2\text{NH}$, $\text{C}_2\text{H}_5\text{NH}_2$, $\text{C}_6\text{H}_5\text{NHCH}_3$.
(ii) Convert Aniline into m-Bromo nitro benzene.
(iii) Write the reaction involved in Carbyl amine reaction.
27. (i) How is propoxy propane synthesized from propan-1-ol? Write mechanism of this reaction.
(ii) Explain Kolbe's reaction with an example.
28. (i) Write two differences between Globular protein & Fibrous protein.
(ii) What products would be formed when a nucleotide from DNA containing thymine is hydrolysed?

SECTION: D

The following questions are case – based questions. Each question has an internal choice & carries 4 (2+1+1) marks each. Read the passage carefully and answer the questions, that follows:

29. Boiling point or freezing point of liquid solution could be affected by the dissolved solids in the liquid phase. A soluble solid in solution has the effect of rising its boiling point & depressing its freezing point.

The addition of non-volatile substances to a solvent decreases the vapour pressure & the added solute particles affect the formation of pure solvent crystals.

According to many researchers, the decrease in freezing point is directly correlated to the concentration of solutes dissolved in the solvent. The phenomenon is expressed as freezing point depression & it is useful for several applications.

Answer the following questions :

- (a) An automobile radiator is filled with 1 kg of water. How many grams of ethylene glycol (Mol mass = 62 gm mol^{-1}) must be added to get the freezing point of the solution lowered to -2.8°C ? (K_f for water = $1.86 \text{ K Kg mol}^{-1}$).
- (b) What is Van't Hoff factor value of CH_3COOH in (i) water (ii) Benzene?

OR

Why 0.1 M glucose solution is not isotonic with 0.1 M KCl solution? Explain.

- (c) Out of 'A' & 'B' having boiling point 140°C & 180°C , which liquid will have lower vapour pressure at 25°C & why?

30. Monosaccharides containing an aldehyde group are called aldose while those containing a keto group are called ketoses. All monosaccharides containing five or six carbon atoms have cyclic structures. During ring formation, C_1 in aldoses & C_2 in ketoses become chiral & hence all these monosaccharides exist in two forms α anomer & β -anomer. On the basis of hydrolysis carbohydrates are further classified as oligosaccharides & polysaccharides.

Answer the following questions :

- (a) Explain the difference between α -form & β form of glucose with their cyclic structure.
(b) Name the monosaccharides obtained on hydrolysis of lactose.

OR

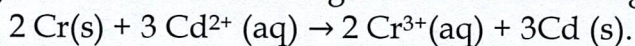
What do you understand by the term glycosidic linkage?

- (c) What is the basic structural difference between Starch & Cellulose? (Write two points)

SECTION: E

31. (a) Write the name of the cell which is used in transistor. Write the reaction taking place at the anode and the cathode of the cell. What is the cell potential of the cell ?

- (b) Calculate ΔG° and $\log K_c$ for the following reaction at 298 K.



[Given $E^\circ_{\text{cell}} = 0.34 \text{ V}$]

- (c) Define molar conductivity.

[2+2+1]

OR

- (a) A copper silver cell is set up. The copper ion concentration is 0.10 M. The concentration of silver ion is not known. The cell potential when measured was 0.42V.

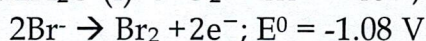
Determine the concentration of silver ion.

[$E^\circ_{\text{Ag}^+ / \text{Ag}} = 0.80 \text{ V}$]

[$E^\circ_{\text{Cu}^{2+} / \text{Cu}} = 0.34 \text{ V}$].

[3]

- (b) In the electrolysis of aqueous solution of sodium bromide, there are two possible anodic reactions: $2\text{H}_2\text{O(l)} \rightarrow \text{O}_2 + 4\text{H}^+ + 4\text{e}^-$; $E^\circ = -1.23 \text{ V}$



Which reaction occurs at anode & why?

[1]

- (c) Predict whether F_2 & Na will react with one another.

Give reason ($E^\circ_{\text{F}_2/\text{F}^-} = +2.87 \text{ V}$, $E^\circ_{\text{Na}^+/\text{Na}} = -2.71 \text{ V}$)

[1]

32. **Answer the following:**

- (a) Many of the transition elements are known to form interstitial compounds. Explain.

- (b) Cr^{2+} is a strong reducing agent, whereas Mn^{3+} with the same configuration is an oxidizing agent. Why?

- (c) Why Lanthanoids have a poor tendency to form complex compounds ?

- (d) Complete the reaction : $3\text{MnO}_4^{2-} + 4\text{H}^+ \rightarrow$

- (e) Name the element of 3d-Series has lowest enthalpy of atomization. Write reason also.

OR

Answer the following:

- (a) Why alloys are mostly prepared from transition metals?

- (b) Why actinoids show greater range of oxidation states ?

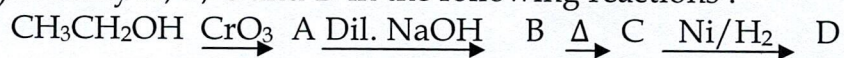
- (c) Metal-metal bonding in 4d & 5d series is more predominant than 3d-Series. Give reason.

- (d) Complete the following reaction : $\text{Cr}_2\text{O}_7^{2-} + \text{H}_2\text{S} \rightarrow$

- (e) Which element of first transition series has highest second ionization enthalpy and why?

33. (a) An organic compound 'X' having molecular formula C_4H_8O gives orange red ppt, with 2,4-DNP reagent. It does not reduce Tollen's reagent but gives yellow ppt of iodoform on heating with NaOH & I_2 . Compound 'X' on reduction with $LiAlH_4$ gives a compound 'Y', which undergoes dehydration reaction with conc H_2SO_4 to give Z (which is an alkene). Identify the compounds 'X', 'Y', & 'Z' and explain the reactions.

- (b) Identify A, B, C and D in the following reactions :



OR

- (a) Convert the following :

- (i) Benzoic acid to Benzaldehyde.
- (ii) Propanoic acid to Ethanoic acid.
- (iii) Benzene to m-nitro acetophnone.

[3+2]

- (b) Complete the following reactions :

- (i) $C_6H_5CHO + H_2NCONHNH_2 \xrightarrow{H^+}$





DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - Accountancy
Maximum Marks- 80

GENERAL INSTRUCTIONS:

1. This paper comprises two parts - A and B. There are 34 questions in the question paper.
All questions are compulsory.
2. Question nos. 1 to 16 and 27 to 30 carry 1 mark each.
3. Question nos. 17 to 20, 31 and 32 carry 3 marks each.
4. Question nos. 21, 22 and 33 carry 4 marks each.
5. Question nos. 23 to 26 and 34 carry 6 marks each.
6. There is no overall choice. However, an internal choice has been provided in 7 questions of one mark, 2 questions of three marks, 1 question of four marks and 2 questions of six marks.
7. Attempt all parts of a question together.

PART A

(Accounting for Partnership firms and Companies)

1. Guru and Aaru are partners. Guru draws a fixed amount at the beginning of every month. Interest on drawings is charged @ 8% p.a. At the end of the year interest on Guru's drawings amounts to Rs. 2,600. Monthly drawings of Guru were _____
(a) Rs. 8,000 (b) Rs. 60,000 (c) Rs. 7,000 (d) Rs. 5,000 [1]

(OR)

Shiva, Sai and Kiran are partners in the ratio of 5 : 3 : 2. If Sai's share of profit at the end of the year amounted to Rs. 1,50,000, what will be Shiva's share of profit?
(a) Rs. 5,00,000 (b) Rs. 1,50,000 (c) Rs. 3,00,000 (d) Rs. 2,50,000

2. **Assertion (A):** Commission provided to partner is shown in Profit and Loss A/C.
Reason (R): Commission provided to partner is charge against profits and is to be provided at fixed rate.
(a) (A) is correct but (R) is wrong
(b) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)
(c) Both (A) and (R) are incorrect
(d) Both (A) and (R) are correct, and (R) is the correct explanation of (A) [1]
3. Atal Ltd. issued a prospectus inviting applications for 24,000 shares of Rs. 10 each, payable Rs. 3 on application, Rs. 5 on allotment and balance on call. Public had applied for certain number of shares and application money was received. Which of the following application money, if received, restricts the company to proceed with the allotment of shares, as per SEBI guidelines?
(a) Rs. 72,000 (b) Rs. 90,000 (c) Rs. 60,000 (d) Rs. 64,800 [1]
4. Gati and Jati are partners sharing profits in the ratio of 2 : 1. They admit Sati for $\frac{1}{5}$ th share in future profits. On the date of admission, Gati's capital was Rs. 1,02,000 and Jati's capital was Rs. 73,000. Sati brings Rs. 25,000 as her share of goodwill and she agrees to contribute proportionate capital of the new firm. How much capital will be brought by Sati?
(a) Rs. 43,750 (b) Rs. 37,500 (c) Rs. 50,000 (d) Rs. 40,000 [1]

(OR)

A and B are partners in a firm sharing profits in 3 : 2. C is admitted as a partner and he takes $\frac{1}{4}$ th of his share from A. B gives $\frac{3}{16}$ th from his share to C. What is the share of C?
(a) $\frac{1}{4}$ (b) $\frac{1}{16}$ (c) $\frac{1}{6}$ (d) $\frac{3}{16}$

5. A, B and C are partners. A's Capital is Rs. 3,00,000 and B's Capital is Rs. 1,00,000. C has not invested any amount of capital but he alone manages the whole business. C wants Rs. 30,000 p.a. as salary, though the deed is silent. Firm earned a profit of Rs. 1,50,000. How much will each partner receives as an appropriation of profits?
- (a) A Rs. 60,000; B Rs. 60,000; C Rs. 30,000
 (b) A Rs. 90,000; B Rs. 30,000; C Rs. 30,000
 (c) A Rs. 40,000; B Rs. 40,000; C Rs. 70,000
 (d) A Rs. 50,000; B Rs. 50,000; C Rs. 50,000 [1]

(OR)

Abha, Bina and Charita are partners. Charita has been given a guarantee of minimum profit of Rs. 8,000 by the firm. The firm suffered a loss of Rs. 5,000 during the year. Capital account of Bina will be _____ by Rs. _____

- (a) Credited, Rs. 6,500 (b) Debited, Rs. 6,500
 (c) Credited, Rs. 1,500 (d) Debited, Rs. 1,500
6. What will be the correct sequence of events?
- (i) Forfeiture of shares (ii) Default on calls
 (iii) Re-Issue of shares (iv) Amount Transferred to Capital Reserve
- (a) (i), (iv), (ii), (iii) (b) (ii), (iv), (i), (iii)
 (c) (ii), (i), (iii), (iv) (d) (iii), (iv), (i), (ii) [1]
7. S Ltd. issued 50,000, 8% Debentures of Rs. 100 each at certain rate of premium and to be redeemed at 10% premium. At the time of writing off Loss on issue of Debentures, Statement of Profit and Loss was debited with Rs. 2,00,000. At what rate of premium, these debentures were issued?
- (a) 10% (b) 16% (c) 6% (d) 4% [1]
8. At the time of dissolution of a firm, Creditors are Rs. 70,000; Firm's Capital is Rs. 1,20,000; Cash Balance is Rs. 10,000. Other assets realized Rs. 1,50,000. Gain/Loss in the realization account will be _____
- (a) Rs. 30,000 (Gain) (b) Rs. 40,000 (Gain)
 (c) Rs. 40,000 (Loss) (d) Rs. 30,000 (Loss) [1]
9. A and B are partners sharing profits in the ratio 3 : 1. On 31st March 2021, firm's net profit is Rs.1,25,000. The Partnership Deed provided interest on Capital to A and B Rs. 15,000 & Rs. 10,000 respectively and Interest on Drawings for the year amounted to Rs. 6,000 from A & Rs. 4,000 from B. A is also entitled to Commission @ 10% on Net Divisible Profits. Calculate Profit to be transferred to Partners Capital Accounts.
- (a) Rs. 1,00,000 (b) Rs. 1,10,000 (c) Rs. 90,000 (d) None of these [1]
10. On the basis of the following data, how much final payment will be made to a partner on firm's dissolution? Credit balance of capital account of the partner was Rs. 50,000. Share of loss on realization amounted to Rs. 10,000. Firm's liability taken over by him was for Rs. 8,000.
- (a) Rs. 32,000 (b) Rs. 48,000 (c) Rs. 40,000 (d) Rs. 52,000 [1]
11. **Assertion (A):** Under the fixed capital method, partners' capital accounts always show a credit balance.
Reason (R): Under the fixed capital method, all items like share of profit or loss, interest on capital, drawings, interest on drawings are recorded in a separate account called partners' current accounts.
- (a) Both Assertion (A) and Reason(R) are true, and (R) is the correct explanation of Assertion (A)
 (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)
 (c) Assertion (A) is true, but Reason (R) is false
 (d) Assertion (A) is false, but Reason(R) is true [1]
12. A share of Rs. 10, issued at Rs. 4 premium. Out of which Rs. 7 (including Rs. 1 premium) was called up and paid up. The uncalled capital will be _____
- (a) Rs. 7 per share (b) Rs. 4 per share
 (c) Rs. 8 per share (d) Rs. 3 per share [1]

(OR)

While issuing ____ type of Debentures, Company doesn't give any undertaking for the repayment of money borrowed by issuing such debentures.

- (a) Zero Coupon Rate Debentures
(c) Secured Debentures

- (b) Non-Convertible Debentures
(d) Non-Redeemable Debentures

13. Ani Ltd. issued a prospectus inviting applications for 2,000 shares. Applications were received for 3,000 shares and Pro-Rata allotment was made to the applicants of 2,400 shares. If Dhani has been allotted 40 shares, how many shares he must have applied for?

- (a) 40 (b) 44 (c) 48 (d) 52 [1]

(OR)

Amit Ltd. offered 2,00,000 Equity Shares of Rs. 10 each, of these 1,98,000 shares were subscribed. The amount was payable as Rs. 3 on application, Rs. 4 on allotment and balance on first call. What is the amount of money received on first call, if a shareholder holding 3,000 shares has failed to pay the first call?

- (a) Rs. 9,000 (b) Rs. 5,85,000 (c) Rs. 5,91,000 (d) None of these

14. Navya, Bhavya and Divya were partners sharing profits and losses in the ratio of 4 : 3 : 2. Navya and Bhavya have given $\frac{1}{9}$ th each from their share to Divya on reconstitution of the firm. The new profit sharing ratio among Navya, Bhavya and Divya will be ____

- (a) 3 : 4 : 2 (b) 2 : 3 : 4 (c) 4 : 2 : 3 (d) 3 : 2 : 4 [1]

15. At the time of admission of a partner, what will be the effect of the following information?

Balance in Workmen Compensation Reserve Rs. 40,000.

Claim for Workmen Compensation Rs. 45,000.

- (a) Rs. 45,000 Debited to the Capital Accounts of Partners
(b) Rs. 40,000 Debited to Revaluation Account
(c) Rs. 5,000 Debited to Revaluation Account
(d) Rs. 5,000 Credited to Revaluation Account [1]

16. At the time of dissolution of partnership firm, fictitious assets are transferred to ____

- (a) Capital Accounts of Partners (b) Realisation Account
(c) Cash/Bank account (d) Partner's Loan Account [1]

17. A and B are partners in a firm sharing profits and losses in the ratio of 7 : 3. Their fixed capitals were : A Rs. 9,00,000 and B Rs. 4,00,000. The partnership Deed provided the following:

(i) Interest on Capital @ 10% p.a.

(ii) A's salary Rs. 50,000 per year and B's salary Rs. 3,000 per month.

Profit for the year ended 31st March, 2019 Rs. 2,78,000 was distributed without providing for interest on capital and partners' salary. Showing your working clearly, pass the necessary adjustment entry for the above omissions. [3]

18. Nita, Mita and Sita were partners in a partnership firm sharing profits in the ratio of 2 : 2 : 1. With effect from 1st April, 2023, they agreed to share profits and losses equally. On that date, there was a general reserve of Rs. 50,000 in the books of the firm. It was agreed that:

(i) Goodwill of the firm be valued at Rs. 3,00,000.

(ii) Profit on revaluation of assets and re-assessment of liabilities amounted to Rs. 30,000.

Pass necessary journal entries for the above transactions in the books of the firm, [3]

(OR)

Varun, Tarun, Arun and Barun were partners in a firm sharing profits in the ratio of 5 : 3 : 2 : 2.

Arun retired on 31st March, 2023. Varun, Tarun and Barun decided to share future profits equally. On Arun's retirement, goodwill of the firm was valued at Rs. 9,00,000. Showing your workings clearly, pass the necessary journal entry for treatment of goodwill on Arun's retirement without opening goodwill account.

19. On 1st April, 2023, Jay and Vijay entered into partnership for supplying laboratory equipments to government schools situated in remote and backward areas. They contributed capitals of Rs. 80,000 And Rs. 50,000 respectively and agreed to share the profits in the ratio of 3 : 2. The Partnership Deed provided that interest on capital shall be allowed at 9% per annum. During the year the firm earned a profit of Rs. 7,800. Showing your calculations clearly, prepare 'Profit and Loss Appropriation Account' of Jay and Vijay for the year ended 31st March, 2024. [3]

20. Vayee Ltd. purchased the following assets of E.X. Ltd.:
Land and Building of Rs. 60,00,000 at Rs. 84,00,000: Plant and Machinery of Rs. 40,00,000 at Rs. 36,00,000. The purchase consideration was Rs. 1,10,00,000. Payment was made by accepting a Bill of Exchange in favour of E.X. Ltd of Rs. 20,00,000 and remaining by issue of 8% Debentures of Rs. 100 each at a premium of 20%.
Record the necessary Journal entries for the above transactions in the books of Vayee Ltd. [3]

21. The Balance Sheet of Manas, Vikas and Giri who were sharing profits in the ratio of 2 : 1 : 2 as at 31st March, 2023 was as follows:

Balance Sheet

Liabilities	Amt (Rs)	Assets	Amt (Rs)
General reserve	38,000	Building	2,60,000
Bills Payable	4,000	Stock	1,15,000
Creditors	28,000	Debtors	95,000
Capital A/Cs		Cash	1,00,000
Manas	2,00,000		
Vikas	1,00,000		
Giri	2,00,000		
	<u>5,00,000</u>		
	<u>5,70,000</u>		<u>5,70,000</u>

Manas died on 30th September, 2023. The partnership deed provided for the following on the death of a partner:

- Goodwill of the firm be valued on three years' purchase of average profits for the last three years.
 - Interest on capital was to be provided @6% p.a.
 - The average profits of the last three years were Rs. 30,000
 - The profit for the year ending 31st March, 2023 was Rs. 50,000
- Prepare Manas's Capital Account to be rendered to his executors. [4]

22. From the following information complete Journal entries and Share Forfeiture A/C

Date	Particulars	L.F	Debit(Rs.)	Credit(Rs.)
	Share Capital A/C Dr. Securities Premium A/C Dr. To Share Forfeiture A/C To Calls in Arrears A/C (Being ? shares forfeited for non-payment of ? including premium of Rs. 2 per share)		<u>?</u> 1,000	<u>?</u> 3,500
	Bank A/C Dr. Share Forfeiture A/C Dr. To Share Capital A/C (Being ? Shares reissued at Rs. 9 per share As fully paid)		<u>?</u> <u>?</u>	<u>?</u>
	Share Forfeiture A/C Dr. To Capital Reserve A/C (Being forfeiture money transferred to capital reserve)		600	600

Dr. Share Forfeiture A/C Cr.

Date	Particulars	Amt(Rs)	Date	Particulars	Amt(Rs)
	To Share Capital A/C	<u>?</u>		By Share Capital A/C	1,500
	To Capital Reserve A/C	600			
	To Balance C/D	<u>600</u>			
		1,500			<u>1,500</u>

(Face Value of Shares is Rs. 10 each)

23. Kushal, Kumar and Kavita were partners in a firm sharing profits in the ratio of 3 : 1 : 1. On 1st April, 2022, their Balance Sheet was as follows:

Balance Sheet

Liabilities	Amt (Rs)	Assets	Amt (Rs)
Creditors	1,20,000	Cash	70,000
Bills Payable	1,80,000	Debtors	2,00,000
General reserve	1,20,000	Less : Provision	<u>10,000</u>
Capital A/Cs		Stock	2,20,000
Kushal	3,00,000	Furniture	1,20,000
Kumar	2,80,000	Building	3,00,000
Kavita	<u>3,00,000</u>	Land	<u>4,00,000</u>
	<u>8,80,000</u>		<u>13,00,000</u>
	<u>13,00,000</u>		

On the above date Kavita retired and the following was agreed.

- (i) Goodwill of the firm was valued at Rs. 40,000
 - (ii) Land was to be appreciated by 30% and building was to be depreciated by Rs. 1,00,000.
 - (iii) Value of furniture was to be reduced by Rs. 20,000
 - (iv) Bad Debts Provision is to be increased to Rs. 15,000
 - (v) 10% of the amount to Kavita was paid in cash and the balance was transferred to her loan account.
 - (vi) Capitals of Kushal and Kumar will be in proportion to their new profit sharing ratio.
The surplus/deficit, if any, in their Capital Accounts will be adjusted through Current Account
- Prepare Revaluation A/C and Capital Accounts of all partners. [6]

(OR)

S and T are partners in a firm sharing profits and losses in the ratio of 3 : 2. Their Balance Sheet as at 31st March, 2020 stood as follows:

Balance Sheet

Liabilities	Amt (Rs)	Assets	Amt (Rs)
Capital accounts		Plant and Machinery	1,20,000
S	60,000	Land and Building	1,40,000
T	<u>80,000</u>	Debtors	1,90,000
Current Accounts		Less : Provision	
S	10,000	For Doubtful Debts	<u>40,000</u>
T	<u>30,000</u>	Stock	40,000
General Reserve	1,20,000	Cash	30,000
Workmen Compensation Fund	50,000	Goodwill	20,000
Creditors	<u>1,50,000</u>		
	<u>5,00,000</u>		<u>5,00,000</u>

They agreed to admit P into partnership for 1/5th share of profits on 1st April 2020, on the following terms.

- (i) All Debtors are good
 - (ii) Value of Land and Building to be increased to Rs. 1,80,000
 - (iii) Value of Plant and Machinery to be reduced by Rs. 20,000
 - (iv) The liability against Workmen Compensation Fund is determined at Rs. 20,000 which is to be paid later in the year
 - (v) Mr. A, to whom Rs. 40,000 were payable (already included in above creditors), drew a bill of exchange for 3 months which was duly accepted
 - (vi) P to bring in capital of Rs. 1,00,000 and Rs. 10,000 as premium for goodwill in cash.
- Journalise the above transactions.

24. Quick Heal Ltd. had share capital of Rs. 8,00,000 divided in shares of Rs. 100 each and 2,000, 8% Debentures of Rs. 100 each as part of capital employed.

The company needs additional funds of Rs. 5,50,000 for which they decided to issue debentures in such a way that they get required funds after issuing debentures of the same class as earlier, at 10% premium. These debentures were to be redeemed at 20% premium after 4 years. These debentures were issued on 1st October, 2021.

You are required to :-

- Pass journal entries for issue of Debentures
- Prepare Loss on Issue of Debentures Account assuming there was existing balance of Securities Premium Account of Rs. 28,000.
- Pass Journal entries for Interest on Debentures on March 31st 2022 assuming interest is payable on 30th September and 31st March every year.

[6]

25. Ashish and Kanav were partners in a firm sharing profits and losses in the ratio of 3 : 2. On 31st March, 2023 their Balance Sheet was as follows:

Balance Sheet of Ashish and Kanav as at 31st March, 2023

Liabilities	Amt(Rs)	Assets	Amt(Rs)
Trade Creditors	42,000	Bank	35,000
Employees' Provident Fund	60,000	Stock	24,000
Mrs. Ashish's Loan	9,000	Debtors	19,000
Kanav's Loan	35,000	Furniture	40,000
Workmen Compensation Fund	20,000	Plant	2,10,000
Investment Fluctuation Reserve	4,000	Investments	32,000
Capitals :		Profit & Loss Account	10,000
Ashish	1,20,000		
Kanav	<u>80,000</u>		
	<u>2,00,000</u>		
	<u>3,70,000</u>		<u>3,70,000</u>

On the above date they decided to dissolve the firm.

- Ashish agreed to take furniture at Rs. 38,000 and pay Mrs. Ashish's Loan
- Debtors realized Rs. 18,500 and Plant realized 10% more
- Kanav took over 40% of the stock at 5% less than the book value
- Trade creditors took over investments in full settlement
- Kanav agreed to take the responsibility of completing dissolution at an agreed remuneration of Rs. 12,000 and to bear realization expenses. Actual expenses of realization amounted to Rs. 8,000.

[6]

26. Star Ltd. invited applications for issuing 2,00,000 equity shares of Rs. 50 each. The amount was payable as follows:

On Application	: Rs. 15 per share
On Allotment	: Rs. 10 per share
On First and Final Call	: Rs. 25 per share

Applications for 3,00,000 shares were received. Allotment was made to the applicants as follows:

Category	No. of Shares Applied	No. of Shares Allotted
I	2,00,000	1,50,000
II	1,00,000	50,000

Excess money with applications was adjusted towards sums due on allotment and calls. Nita, a shareholder of Category I, holding 3,000 shares failed to pay the allotment money. Her shares were forfeited immediately after allotment. Manu, a shareholder of Category II, who had applied for 1,000 shares failed to pay the first and final call. His shares were also forfeited. All the forfeited shares were reissued at Rs.60 per share as fully paid-up.

Pass necessary Journal entries for the above transactions in the books of Star Ltd.

[6]

(OR)

Pass journal entries for forfeiture and re-issue in both the following cases.

- (a) L Ltd. forfeited 470 Equity Shares of Rs. 20 each issued at a premium of Rs. 3 per share for the non-payment of allotment money of Rs. 8 (including premium Rs. 3) and first call of Rs. 5 per share. Final call of Rs. 5 per share was not made. Out of these, 235 shares were reissued at Rs. 19 each as fully paid.
- (b) A Ltd. forfeited 200 shares of Rs. 20 each, Rs. 15 per share called-up on which Rs. 10 per share had been paid. Directors reissued all the forfeited shares to B as Rs. 15 per share paid-up for a payment of Rs. 10 each.

PART B

(Analysis of Financial Statements)

27. If total sales is Rs 2,50,000 and credit sales is 25% of cash sales. The amount of credit sales is ____

- (a) Rs. 50,000 (b) Rs. 2,50,000
(c) Rs. 16,000 (d) Rs. 3,00,000

[1]

(OR)

A company has an operating cycle of eight months. It has accounts receivables amounting to Rs. 1,00,000, out of which Rs. 60,000 have a maturity period of 11 months. How would this information be presented in the Balance Sheet?

- (a) Rs. 40,000 as Current asset and Rs. 60,000 as Non-Current Asset
(b) Rs. 60,000 as Current Asset and Rs. 40,000 as Non-Current Asset
(c) Rs. 1,00,000 as Non-Current Assets
(d) Rs. 1,00,000 as Current Assets

28. Which of the following ratio indicates the proportion of assets financed out of Shareholders' funds?

- (a) Debt Equity Ratio (b) Fixed Assets Turnover Ratio
(c) Proprietary Ratio (d) Total Assets to Debt Ratio

[1]

29. X Ltd. purchased a Building for Rs. 5,00,00,000 from Y Ltd., paying 40% by issue of 9% Debentures and the balance by cheque.

The above transaction will result in :

- (a) Cash used in Investing Activities Rs. 2,00,00,000
(b) Cash generated from Financing Activities Rs. 2,00,00,000
(c) Decrease in Cash and Cash Equivalents Rs. 2,00,00,000
(d) Cash used in Investing Activities Rs. 3,00,00,000

[1]

30. An Investment normally qualifies as Cash Equivalent only when from the date of acquisition it has a short maturity period of ____

- (a) One month or less (b) Three months or less
(c) Three months or more (d) One year

[1]

(OR)

Which of the following transactions will not result into flow of cash?

- (a) Issue of Equity Shares of Rs. 10,00,000
(b) Purchase of Furniture of Rs. 5,00,000
(c) Redemption of 10% Debentures of Rs. 2,00,000
(d) Cash Deposited into bank Rs. 50,000

31. Under which sub-headings will the following items be placed in the Balance Sheet of a company as per Schedule III, Part I of the Companies Act, 2013?

- (i) Prepaid expenses
(ii) Loose Tools
(iii) Loans Repayable on Demand
(iv) Provision for Employee Benefit
(v) Negative Balance in the Statement of Profit and Loss
(vi) Trade Marks

[3]

(OR)

'Accounting Ratios ignore qualitative factors and are also not comparable if different firms follow different policies'.

Do you agree with the given statement? Give any three reasons in support of your answer.

32. Prepare a Common Size Balance Sheet of X Ltd. from the following information.

Balance Sheet of X Ltd. as at 31st March, 2023

Particulars	Note No.	31 st March, 2023 (Rs.)	31 st March, 2022 (Rs.)
I. EQUITY AND LIABILITIES			
1. Shareholders' Funds			
(i) Equity Share Capital		30,00,000	15,00,000
(ii) Reserves and Surplus		10,00,000	5,00,000
2. Non-Current Liabilities		20,00,000	20,00,000
3. Current Liabilities		<u>20,00,000</u>	<u>10,00,000</u>
Total		<u>80,00,000</u>	<u>50,00,000</u>
II. ASSETS			
1. Non-Current Assets		40,00,000	30,00,000
2. Current Assets			
Inventories		<u>40,00,000</u>	<u>20,00,000</u>
Total		<u>80,00,000</u>	<u>50,00,000</u>

[3]

33. Calculate Interest Coverage Ratio from the following information:

Net Profit after interest and tax Rs. 1,20,000; Rate of income tax 40%;

15% Debentures Rs. 1,00,000; 12% Mortgage Loan Rs. 1,00,000.

[4]

(OR)

Calculate 'Total Assets to Debt Ratio' from the following information:

	Rs.
Equity Share Capital	4,00,000
Long term Borrowings	1,80,000
Surplus i.e., Balance in statement of profit and loss	1,00,000
General reserve	70,000
Current Liabilities	30,000
Long Term Provisions	1,20,000

34. (i) From the following information, calculate the Cash Flow from Operating Activities.

Particulars	31 st March, 2024 Rs.	31 st March, 2023 Rs.
Surplus, i.e., Balance in Statement of Profit and Loss	50,000	60,000
Provision for Tax	12,000	10,000
Trade Receivables	24,000	20,000
Trade Payables	20,000	15,000
Good Will	15,000	20,000

Additional Information:

Proposed Dividend for the year ended 31st March, 2023 and 31st March, 2024 were Rs. 15,000 and Rs. 18,000 respectively.

(ii) From the following information, calculate the Cash flow from Investing Activities

Particulars	31 st March, 2024 Rs.	31 st March, 2023 Rs.
Machinery (Cost)	14,00,000	10,00,000
Accumulated Depreciation	3,25,000	2,00,000

Additional Information:

(a) Machinery costing Rs. 25,000 (Book Value Rs. 20,000) was lost by fire and Insurance Claim of Rs. 16,000 was received.

(b) Depreciation charged during the year was Rs. 1,75,000.

(c) A part of Machinery costing Rs. 1,25,000 was sold at a loss of Rs. 10,000.

[6]



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - History
Maximum Marks- 80

General Instructions:

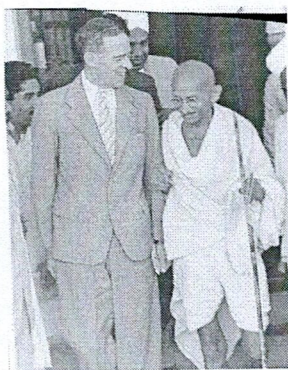
- The paper has been divided into five sections - A, B, C, D and E. There are 34 questions in the question paper. All questions are compulsory.
- Section A: Question no. 1 to 21 are MCQs of 1 marks each.
- Section B: Question no. 22 to 27 are short Answer type questions carrying 3 marks each. Answer to each question should not exceed 60-80 words.
- Section c: Question no. 28 to 30 are long Answer type questions carrying 8 marks each. Answer to each question should not exceed 300-350 words
- Section D: Question no. 31 to 33 are Source based questions with three sub questions and are of 4 marks each.
- Section E: Question no. 34 is Map based, carrying 5 marks that includes the identification and location of significant test items. Attach the map with the answer book.
- There is no overall choice in the question paper. However, an internal choice has been provided in few questions have to be attempted.
- In addition to this, separate instructions are given with each section and question, wherever necessary.

SECTION-A (1*21= 21 Marks)

1. Who among the following was the author of 'Ashtadhyayi' a work on Sanskrit grammar?
(a) Aryabhatta (b) Bhardwaj (c) Charaka (d) Panini
2. With respect to Buddhism, which of the following is/are correct?
(i) Buddhist written texts limit themselves to the teachings of Buddha
(ii) Gautam Buddha's discourses were attended by women and children as well
(iii) Buddhist texts such as Dipavamsa originated on account of Buddhism spreading abroad
(a) (ii) only (b) (iii) only (c) (i) and (ii) (d) (ii) and (iii)
3. The Harappan Civilisation had trade contacts with distant lands as well. In this respect, which of the following statements is correct?
(a) Trade contacts were established with the Mediterranean region through Suez canal
(b) Metal currency was the primary medium of trade exchange with distant lands
(c) Texts from Mesopotamia mention Harappan links with modern day Bahrain
(d) Most Harappan crops were obtained through trade with distant lands
4. Which of the following is correct with respect to Ibn Battuta?
(a) His travel in India was free of theft and other challenges
(b) Born in the 14th century, he wrote extensive works in Persian
(c) His works give great insights about how the Mughal Empire ruled India
(d) Future travelers read 'Rihla' written by him to gain insights about India.

5. Who wrote 'The Story of Indian Archaeology'
- S.N. Roy
 - G.F. Dales
 - R.E.M. Wheeler
 - John Marshall
6. The Ain is made up of five books (daftars), of which the first three books describe the administration, the third book 'mulk abadi' deals specifically with
- Administration of the empire
 - civil Administration of the empire
 - fiscal side of the empire
 - Praise of the emperor
7. As per the travellers description of the caste system, the _____ means born outside the system and were often expected to provide inexpensive labour to peasants and zamindars.
- Caravans
 - zaytun
 - Antyaja
 - Qaz
8. Who said that the deliberations of Constituent Assembly were under the influence of the British?
- Somnath Lahir
 - Muhammad Ali Jinnah
 - BR Ambedkar
 - Mahatma Gandhi
9. Which one of the following texts contains the teachings of Mahavira or Jaina Philosophy?
- Mahavamsa
 - Uttaradhyayana Sutta
 - Dipvamsa
 - Sutta Pitaka
10. _____ was the socialist member of congress who was active in the underground resistance during Quit India Movement.
- Sardar Patel
 - Jayaprakash Narayan
 - Nathuram Godse
 - Somnath Lahiri
11. Identify and name the preceptor or Guru of the Sikh community whose works and contributions are given below:
- He laid the foundation of the Khalsa Panth
 - He bestowed the Sikhs with five distinct symbols.
 - He consolidated the community as a socio-religious and military force
 - He compiled the compositions of the ninth guru, Guru Tegh Bahadur in Guru Granth Sahib
- Angad
 - Arjan
 - Govind Singh
 - Nanak Dev
12. Which of the following options indicates the sculpture of "Empty Seat" in the Sanchi Stupa?
- Decoration of Stupa
 - Symbol of human attribute
 - Meditation of Buddha
 - Good fortune
13. Who was the chairman of the drafting committee of our constitution?
- Jawaharlal Nehru
 - B.R. Ambedkar
 - Rajendra Prasad
 - B.N. Rau
14. (i) His rule was characterized by expansion and consolidation.
(ii) There was peace and prosperity in his empire.
(iii) He was credited with building some fine temples.
(iv) He belonged to the Sangam dynasty
- Which of the above statements are related to Krishnadeva Raya?
- Only (i)
 - ii,iii,iv
 - i,iii,iv
 - i,ii,iii

15. Which one of the following provisions of Subsidiary Alliance was not applicable on Awadh in 1801?
- The British would be responsible for protecting their ally from internal and external threats.
 - The British contingent would be stationed in the territory of the ally.
 - The ally would provide resources to maintain the British contingent
 - The ally was free to enter into agreements with other rulers without the permission of the British.
16. Consider the following events :
- | | |
|----------------------------------|--|
| I. Cabinet Mission | II. "Objective Resolution" in the Constituent Assembly |
| III. The Government of India Act | IV. The Quit India movement |
- The correct chronological order of these events is:
- I,IV,III,II
 - III,I,IV,II
 - I,III,II,IV
 - III,IV,I,II
17. Which one of the following countries did 'Afanasi Nikitin' belong to?
- Russia
 - Portugal
 - Spain
 - France
18. Which one of the following options indicate the sculpture of "Shalabhanjika Motif" in the Sanchi Stupa?
- Mahaparinibbana
 - strength and wisdom
 - Auspicious symbol
 - Devotion towards Goddess
19. **Assertion (A):** The constituent Assembly comprised of representatives from various religions, regions, and political affiliations
- Reason(R):** The composition of India's constituent Assembly was crucial in building the ground work for a democratic and inclusive country
- Both A and R are true and R is the correct explanation of A
 - Both A and R are true and R is not the correct explanation of A
 - A is true but R is false
 - A is False but R is true
20. **Assertion (A):** The Revolt of 1857 in India was a spontaneous uprising with no clear leadership or organized strategy
- Reason(R):** The participants came from diverse backgrounds and regions and lacked centralized coordination.
- Both A and R are true and R is the correct explanation of A
 - Both A and R are true and R is not the correct explanation of A
 - A is true but R is false
 - A is False but R is true
21. Identify the person with Mahatma Gandhi in the following image.



- Lord Mountbatten
- Stafford Cripps
- Sir Radcliffe
- John Simon

SECTION-B (3*6=18 Marks)

22. Why were land grants given and to whom?

OR

Explain the financial state of women as understood from various texts of period between 6th century BCE to 6th century CE

23. Discuss the role of the Begums of Bhopal in preserving the stupa at Sanchi

24. Name the contemporary kings which the Vijayanagara kings had to deal with. What was the nature of their interaction?

OR

Explain the Amara Nayaka System.

25. Examine the different arguments made in the Constituent Assembly over the federal structure of the Government of India

OR

Within the Constituent Assembly, the National language issue was debated over many months and often generated intense arguments. Support the statement with evidences.

26. Critically analyse the santal rebellion

OR

Why the Deccan Ryots commission was appointed?

27. What steps did the British take to quell the uprising of 1857 ?

SECTION-C (8*3=24 Marks)

28. Summarise the central teachings of Jainism.

OR

Summarise the central teachings of Buddhism.

29. Analyse, with illustrations, why bhakti and sufi thinkers adopted a variety of local languages.

OR

Discuss the major beliefs and practices that characterized Sufism.

30. How the arrival of Mahatma Gandhi change the way of India Politics?

SECTION-D (4*3=12)

31. The problem with separate electorate

At the Round Table Conference, Mahatma Gandhi stated his arguments against separate electorates for the Depressed Classes:

Separate electorates to the "Untouchables" will ensure them bondage in perpetuity ... Do you want the untouchables to remain untouchables for ever? Well, the separate electorate would perpetuate the stigma. What is needed is destruction of "Untouchability", and when you have done it, the barsinister, which has been imposed an insolent "superior" class upon an "inferior" class will be destroyed.

When you have destroyed the barsinister to whom will you give the separate electorates?

(i) Who demanded separate electorate for the untouchables? (1)

(ii) Where was the Round Table Conference held? (1)

(iii) Why was Gandhiji not in favour of separate electorates and for whom? (2)

32. A Sprawling City

This is an excerpt from Domingo Paes's description of Vijayanagara:

The size of this city I do not write here, because it cannot all be seen from any spot, but I climbed a hill hence, I could see a great part of it; I could not see it all because it lies between several ranges of hill. What I saw from thence seemed to me as large as Rome and very beautiful to the sight; there are many groves of trees within it, in the gardens of the houses and many conduits of water which flow into the midst of it and in places there are lakes; and the king has close to his palace a palm-grove and other rich fruit-bearing trees.

- (i) Name the city that is described in the above source. (1)
- (ii) How did Domingo Paes succeeded to view larger part of city? (1)
- (iii) What was the description of the city by Paes later? (2)

33. Read the following source carefully and answer the questions that follow.

Life in a Small Village

The Harshacharita is a biography of Harshavardhana, the ruler of Kannauj, composed in Sanskrit by his court poet, Banabhatta (c seventh century CE). This is an excerpt from the text, an extremely rare representation of life in a settlement on the outskirts of a forest in the Vindhya. The outskirts being for the most part of forest, many parcels of rice-land, threshing ground and arable land were being apportioned by small farmers. It was mainly spade culture owing to the difficulty of ploughing the sparsely scattered fields covered with grass, with their few clear spaces, their black soil stiff as black iron.

There were people moving along with bundles of bark countless sacks of plucked flowers, loads of flax and hemp bundles, quantities of honey, peacocks' tail feathers, wreaths of wax, logs and grass. Village wives

hastened on route for neighbouring villages, on thoughts of sale and bearing on all intent on thoughts their heads baskets filled with various gathered forest fruit.

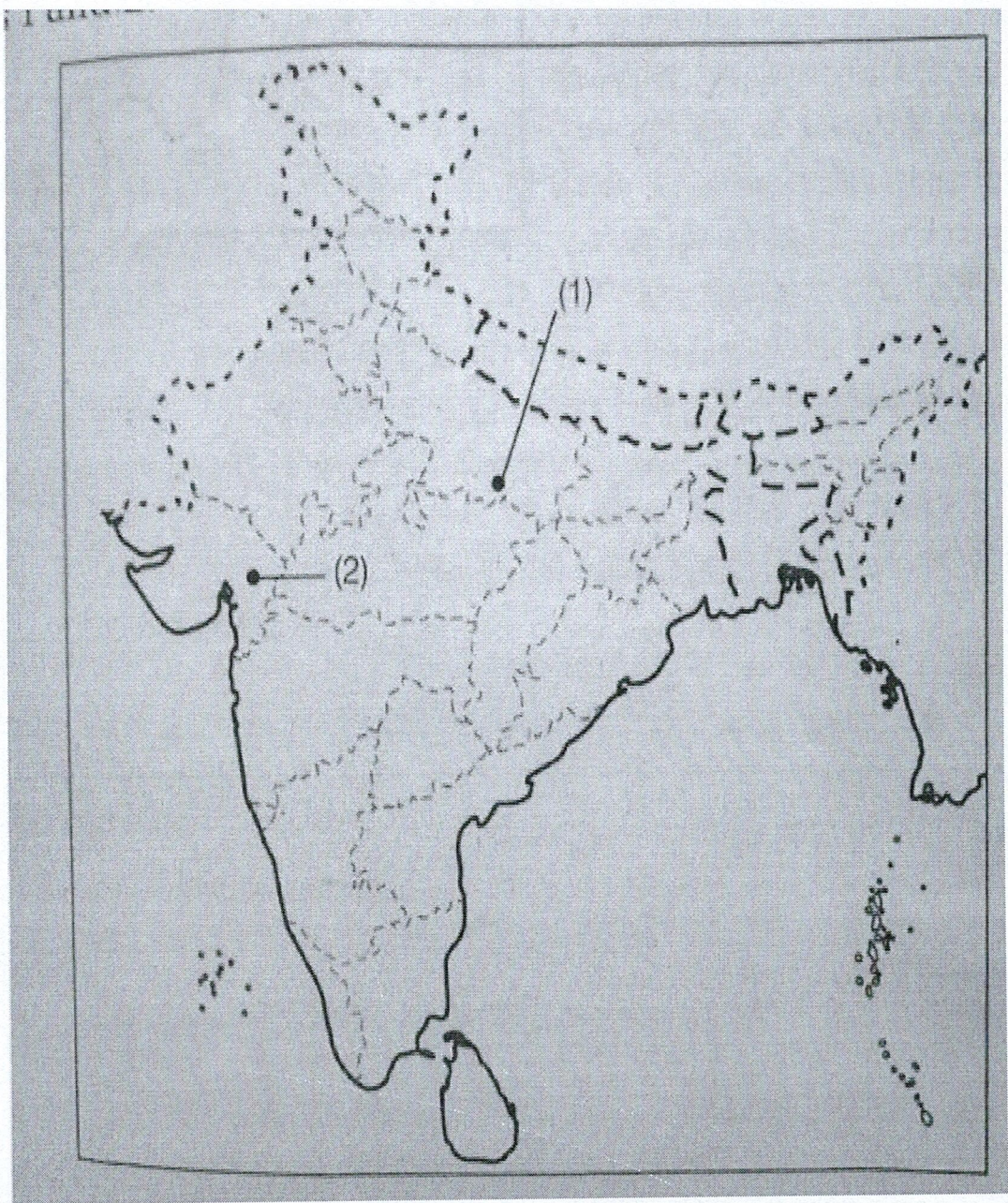
- (i) Who was the author of Harshacharita (1)
- (ii) Describe the outskirts of a forest in the Vindhya. (1)
- (iii) Describe the activities of the people of that area. Mention two main activities of the farmers of that time. (2)

SECTION-E (1*5=5 Marks)

34. A. On the given political map of India locate and label the following with appropriate symbols. (3)

- (i) Magadha (ii) Kannauj (iii) Allahabad

B. On the given political map of India, two centres of the Indian National Movement have been marked as 1 and 2. Write their names. (2)





DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 2 Hours

Subject - Fine Art Painting
Maximum Marks - 30

General Instructions:

- Section-A: Attempt all Questions (Each Question will carry 1 Mark)
- Section-B: Attempt all Questions (Each Question will carry 2 Marks)
- Section-C: Attempt any two Questions (Each Question will carry 6 Marks)

SECTION-A

Select the right answer from the given options:

[1x8=8]

1. A. Which of the following is a prominent characteristic of Rajasthan miniature paintings?
 - i. Use of dark and somber colours
 - ii. Focus on natural landscapes
 - iii. Depiction of courtly life and romantic themes
 - iv. Absence of human figures
- B. **Assertion (A):** Pahari school did not develop as independent school with distinctive style.
Reason (R): Pahari School was influenced by Rajastani and Mughal School.
 - i. Both A and R are true, and R is the correct explanation of A
 - ii. Both A and R are true, but R is not the correct explanation of A
 - iii. A is true but R is false
 - iv. A is false and R is true
- C. Which of the following themes are commonly depicted in Pahari miniatures?
 - i. Court scenes
 - ii. Battle scenes
 - iii. Mythological narratives, especially those related to Krishna
 - iv. Abstract designs
- D. Which artist was known for blending traditional Indian styles with Japanese techniques in his paintings?
 - i. Jamini Roy
 - ii. Abanindranath Tagore
 - iii. Nandalal Bose
 - iv. Raja Ravi Varma
- E. Which of the following themes are commonly depicted in Mughal miniature paintings?
 - i. Historical events and battles
 - ii. Portraits of emperors and courtiers
 - iii. Nature and wildlife
 - iv. All of the above

F. **Assertion (A):** Deccan school of painting originated in plains of Northern India.

Reason (R): It was nurtured by various Sultans of Deccani kingdom.

- i. Both A and R are true and R is the correct explanation of A
- ii. A is true but R is false
- iii. A is false and R is True
- iv. Both A and R are true, but R is not the correct explanation of A

G. What is the primary purpose of a critical analysis in art?

- i. To summarize the artist's biography
- ii. To evaluate and interpret the artwork
- iii. To compare different artists
- iv. To sell the artwork

H. Which of the following is a notable feature of the Bengal School of Painting?

- i. Use of bright, vibrant colors inspired by Western art.
- ii. Emphasis on Indian traditions and spirituality.
- iii. Focus on portraiture and realism.
- iv. Incorporation of abstract and surreal elements.

SECTION-B

(Short answer type questions)

The answer to this question is expected more than 100 words

[2x5=10]

2. (A) Discuss the themes of love and romance in Rajasthani paintings, particularly in the context of the 'Ragamala' series.

OR

(B) What is 'composition' in painting, and why is it important? Appreciate Guman a great painter of Rajasthani school. Write about the compositional arrangement and subject matter with reference to his particular painting included in your course of study.

3. (A) What are the imperial symbols in a Deccan royal painting?

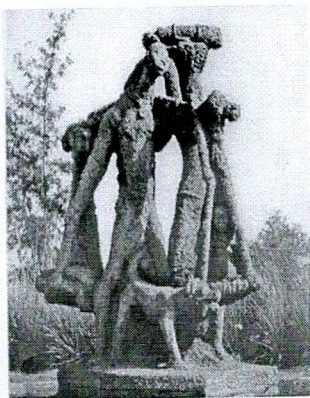
OR

(B) Write a critical note in detail with suitable examples in compositional arrangement of "Chand Bibi Playing Polo" duly based on aesthetic parameters:

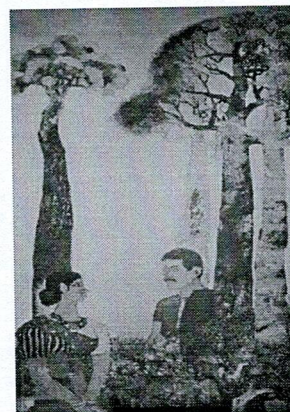
4. (A) Evaluate the aesthetic grandeur of any Pahari miniature painting included in your course of study duly based on aesthetic parameters with suitable examples.

OR

(B) Identify the art work and what are the differences between these two.



1

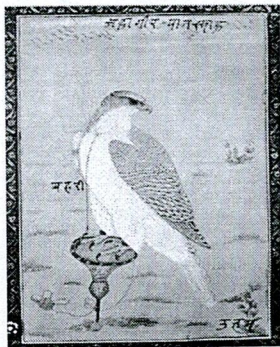


2

5. (A) Discuss the contributions of key figures in the Bengal School, such as Nandalal Bose or Abanindranath Tagore, in shaping modern Indian art.

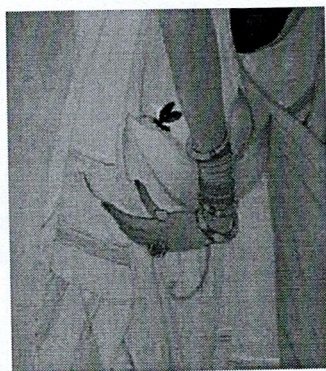
OR

- (B) What are the characteristics of Indian folk art? Name a prominent Indian artists and their art work contributed to modern art based, on folk art.
6. (A) Identify the given painting and its artist, medium. How you can say that it was influenced by western art



OR

- (B) From which painting the given part is taken? Write about the symbolic representation of icons depicted there.



SECTION-C

Attempt any two questions from the given options (Long answer type questions)

An answer for this question is expected in more than 200 words.

[6x2=12]

7. (a) Discuss the significance of the Mughal miniature painting style through origin and development. Discuss the techniques and materials used in Mughal miniatures and their impact on the quality and detail of the artworks.
- (b) How did Mughal painting reflect the cultural syncretism of the time? Provide specific examples based in your syllabus.
8. (a) Who coined the term Rajput paintings and what does this term signify?
- (b) Describe different schools of Rajasthani paintings and give example to support their characteristics.
9. (a) Examine how modern Indian artists have reinterpreted traditional themes from Mughal, Pahari, and Bengal art in their contemporary works.
- (b) Discuss the role of Art in different Groups and institutions in promoting Modern Indian art in the post-independence era.
-



DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI

PRE BOARD - I (2024-25)

Class - XII
Time - 2 Hours

Subject - Hindustani Music Vocal
Maximum Marks- 30

सामान्य निर्देश :

इस प्रश्न पत्र में तीन खण्ड हैं क, ख और ग।

खण्ड-क 1 अंको का है। सभी प्रश्न अनिवार्य हैं।

खण्ड-ख 2 अंको का है। सभी प्रश्न अनिवार्य हैं।

खण्ड-ग 6 अंको का है। सभी प्रश्न अनिवार्य हैं।

खण्ड - क

[1×8=8]

1. संधिप्रकाश रागों के अनिवार्य स्वर हैं ?

- i. रे ध कोमल तथा ग कोमल
- ii. ग नि कोमल तथा रे शुद्ध
- iii. रे ध कोमल तथा ग शुद्ध
- iv. ग नि कोमल तथा रे कोमल

2. सात स्वरों के क्रमायुक्त आरोह - अवरोह को कहते हैं ?

- i. ग्राम
- ii. मूर्च्छाना
- iii. जाति
- iv. थाट

3. उस्ताद फैयाज़ खां का संबंध किस घराने से है?

- i. दिल्ली
- ii. आगरा
- iii. जयपुर
- iv. किराना

4. सही कथन चुनिए:

- क) बड़े गुलाम अली खां ठुमरी भी गाते थे।
- ख) तानपुरे की पहली तार को षडज में मिलाया जाता है।
- ग) रूपक में खाली पहली मात्रा पर है।
- घ) झपताल में तीन विभाग हैं।

सही उत्तर चुनिए:

- i. क, ख
- ii. ख, ग
- iii. क, ग
- iv. ग, घ

5. सही कथन चुनिए।

क. शारदादेव ने दसविष्टि राज वर्गीकरण दिया है।

ख. षडज गान में पंचम 16 वीं श्रुति पर है।

ग. शंकर राव शंकर पंडित का संबंध ग्वालियर घराने से है।

घ. आहोबिल ने स्वयं की स्थापन बीणा की तार की लम्बाई पर की।

सही कथन चुनिए:

(i) क, ख, ग

(ii) क, ख, घ

(iii) ख, ग, घ

(iv) क, ग, घ

6. मिलान कीजिए।

क. मालकौस	1. ती ती ना
ख. रूपक ताल	2. ग घ नि
ग. सपाट	3. गमक
घ. आंदोलित	4. तान

(i) क-2 ख-4 ग-1 घ-3

(ii) क-3 ख-1 ग-4 घ-2

(iii) क-2 ख-1 ग-4 घ-3

(iv) क-3 ख-4 ग-1 घ-2

7. कथन अ: तानपुरे के जोड़े के तार को मध्यम में मिलाया जाता है।

कथन ब: तानपुरा तत् वादय यंत्र के अंतर्गत माना गया है।

इन कथनों के आलोक में निम्न लिखित विकल्पों में से सही उत्तर चुने:

i) कथन (अ) सही है, विकल्प (ब) गलत है।

ii) कथन (अ) गलत है, विकल्प (ब) सही है।

iii) कथन (अ) और कथन (ब) दोनों सही हैं।

iv) कथन (अ) और कथन (ब) दोनों गलत हैं।

8. कथन अ: राज औरव में रे प स्वर वज्रित है।

कथन ब: ग म ध्र - प, म प ग म रे - रे सा स्वर समूह राज औरव में प्रयुक्त है।

इन कथनों के आलोक में निम्न लिखित विकल्पों में से सही उत्तर चुने:

i) कथन (अ) सही है, विकल्प (ब) गलत है।

ii) कथन (अ) गलत है, विकल्प (ब) सही है।

iii) कथन (अ) और कथन (ब) दोनों सही हैं।

iv) कथन (अ) और कथन (ब) दोनों गलत हैं।

9. निम्नलिखित में से किन्हीं दो को परिभाषित कीजिए:

गमक, अलंकार, खटका, मुर्की

अथवा

निम्नलिखित रागों के थाठ, वादी - संवादी, जाति तथा पकड़ लिखिए:

(i) बागेश्री (ii) मालकौंस

10. श्रुति स्वर सम्बंध के विशेष सन्दर्भ में संगीत पारिजात के महत्त्व को प्रकाशित कीजिए।

अथवा

राग भैरव का विस्तार 50 स्वरों तक कीजिए।

11. अपने पाठ्यक्रम में सम्मिलित किसी प्रातः कालीन रागों का शास्त्रीय परिचय लिखिए।

अथवा

हिंदुस्तानी संगीत में रागों के समय सिद्धांत के आधार पर किये गये वर्गीकरण अध्वदर्शक स्वर 'म' का क्या महत्व है।

12. 'धुड़च' के प्रयोग के विशेष सन्दर्भ में तानपुरे के किन्हीं चार अंगों पर प्रकाश डालिए।

अथवा

चौगुन सहित धमार ताल का विवरण लिखिए।

13. निम्नलिखित का संक्षेप में वर्णन कीजिए।

(i) तान

(ii) ग्राम

अथवा

संगीत रत्नाकर की विषय वस्तु का संक्षेप में वर्णन कीजिए।

14. प्रत्येक राग की शुरुआत आलाप से होती है। आलाप के द्वारा राग का शुद्ध स्वरूप प्रदर्शित किया जा सकता है। राग के स्वरों का ताल रहित विस्तार करते समय सभी राग की प्रमुख विशेषताओं को आलाप के द्वारा दर्शाया जा सकता है। इसके अतिरिक्त राग में मीड, कण, गमक आदि का प्रयोग भी राग के आलाप में किया जाता है।

उपर्युक्त गद्य को पढ़ कर अपने पाठ्यक्रम में दिए गए किन्हीं दो रागों में 60- 60 स्वरों तक का आलाप मीड, कण, गमक आदि के चिन्हों को दर्शाते हुए लिखिए।

अथवा

वर्तमान समय में खयाल अथवा ध्रुपद के किसी एक कलाकार की गायन शैली की विशेषताओं का वर्णन कीजिए।

15. अपने पाठ्यक्रम के किसी एक राग में तराना को स्वरलिपिबद्ध कीजिए।

अथवा

अपने पाठ्यक्रम में दिए गए किसी एक राग में द्रुत खयाल के स्थाई तथा अंतरा को दो तान सहित स्वरलिपिबद्ध कीजिए।



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD – I (2024-25)

Class - XII
Time - 2 Hours

Subject - Fine Art Graphics
Maximum Marks - 30

General Instructions:

- Section-A: Attempt all Questions (Each Question will carry 1 Mark)
- Section-B: Attempt all Questions (Each Question will carry 2 Marks)
- Section-C: Attempt any two Questions (Each Question will carry 6 Marks)

SECTION-A

Very short answer or select the right answer from the given options:

[1x8=8]

Q.1. (A) Assertion (A): Jahangir give the title 'Nadir-Ul-Asr' (Wonder of the age) to Ustad Mansoor.

Reason (R): Because Jahangir had a fine collection of exotic birds and animals and he got them painted.

- (i) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (ii) Both (A) and (R) true but (R) is not the correct explanation of (A).
- (iii) (A) is true but (R) is false.
- (iv) (A) is false but (R) is true.

(B) Which book is noted as the first illustrated manuscript of Mughal painting?

- (i) Hamzanama
- (ii) Razmanama
- (iii) Ramayana
- (iv) Ain-e-Akbari

(C) Name the illustrated encyclopedia of Bijapur with 876 Miniature.

- (i) Gulistan
- (ii) Naurasnama
- (iii) Tuzuk-I-Asfiya
- (iv) Nujum-al-Ulam

(D) Match the Column A with the suitable option of Column B.

Column - A

- 1. Akbar
- 2. Sansar Chand
- 3. Sahibdin
- 4. Nihal Chand

Column- B

- A. Kishangarh school
- B. Mewar school
- C. Kangra school
- D. Mughal school

- (i) 1-D, 2-C, 3-B, 4-A
- (ii) 1-A, 2-B, 3-C, 4-D
- (iii) 1-B, 2-D, 3-A, 4-C
- (iv) 1-D, 2-A, 3-B, 4-C

- (E) Which one of the following are sub-schools of Rajasthani school of miniature painting?
- Jaipur, Jodhpur, Guler, Chamba
 - Jaipur, Kishangarh, Bikaner, Bundi
 - Bikaner, Chamba, Jaipur, Bundi
 - Garhwal, Jaipur, Bikaner, Jodhpur
- (F) The manuscript "Tarif-Husain Shahi" has been assigned to the time period 1565- 69 A.D. and has been preserved at:
- Bharat Itihas Samshodaka Mandala Poona
 - National Museum, New Delhi
 - Maharaja Sawai Man Singh Museum, Jaipur
 - National Gallery of Modern Art, New Delhi
- (G) Who was the Pioneer painter of the Bengal School of Painting?
- Gagendranath Tagore
 - E.B. Hevell
 - Anand Coomarswami
 - Abnindranath Tagore
- (H) **Assertion (A)** The contemporary sculpture 'Cries- Unheard' is aesthetically powerful in depicting a helpless family asking for support.
Reason (R) These emotions are successfully showcased through cement and wood.
- Both A and R are true and R is the correct explanation of A.
 - Both A and R are true but R is not the correct explanation of A.
 - A is true but R is false.
 - A is false and R is True.

SECTION-B :

(Short answer type questions)

The answer to this question is expected around 100 words

[2x5=10]

- Q.2. The life of widows in our society has been challenging and painful since time immemorial. In the name of widowhood, many pleasures are taken away from women and many social restrictions are imposed on them.
- Mention the name of any print-maker included in your syllabus, who has displayed the pain of widowhood of women in his artwork.
 - Write the title of the print, medium and describe it aesthetically.

OR

Aesthetically criticize any graphic-print included in your course of study that depicts the spiritual harmony of Tantra, Yoga, Sadhna, Dharma (religion) and feminine power.

- Q.3. This painting has been displaying a wonderful combination of deep contemplation, Sufism and great devotion for music.
 Identify this painting of Deccan school and describe it on the basis of composition arrangement in your own words.

OR

Whose service to mankind has M.F. Husain portrayed in his painting? Describe the painting with Fundamental of Art.

- Q.4. Four Women horse riders are playing Polo (Chaugan) in the vast playground, with the referee depicted in the middle of foreground. In the foreground, birds are depicted searching for food in the pond and high hills and buildings are depicted in the background. Identify the painting and write about its title, painter, sub-school, medium and compositional arrangement.

OR

Four male workers are trying to remove a heavy rock with all their powers, causing enough strain in the muscles of their bodies. Demonstrating the important of human liver in nation building, this sculpture is established in the courtyard of the 'National Gallery of Modern Art', New Delhi.

Describe this artwork on the basis of compositional arrangement, medium and technique.

- Q.5. What do you know about the Indian National Flag? How different was the present national flag from the one accepted by Gandhiji in 1921?

OR

"The famous sculptor P.V. Jankiram gave a new direction to the creative word of sculpture by his mastery to use different materials to create his sculptures."

Throw light on the name of the sculpture made by him, the medium and the artistic qualities of this sculpture.

- Q.6. Identify any relevant painting of the Bengal School or Contemporary (modern) Indian graphic-print included in your course of study comprising of the following features and explain them in that artwork accordingly:

- (a) The delineation of attenuated human figures with extra elongated limbs and tapering fingers, which reflect the influence of the Rajasthani, Pahari and Mughal miniature. Hence, the emphasis on the European realism is terminated.

OR

- (b) The depiction of skeletal human figures in the graphic-prints by Somnath Hore, is an expression of his sensitivity towards injustice to them and the life-long protest against it.

SECTION-C

Attempt any two questions from the given options (Long answer type questions)

Answer for this question is expected in more than 200 words

[6x2=12]

- Q.7. It is believed that "The Glory of the Mughal Miniature painting rose like rising sun with the dawn of the Mughals and dwindled with the sunset of the Mughals".

- (i) Justify this statement by describing the continuous growth in Mughal Miniature paintings.
- (ii) Mention the "Golden Period" and the "Downfall".
- (iii) Explain in brief, the painting "Krishna Lifting Mount Govardhana"

- Q.8. How Modern Art developed in Indian Art? Why do you like or dislike Contemporary (Modern) Art?
Justify your answer with suitable example of paintings included in your course of study.

- Q.9. Identify the artwork and describe in detail about this painting in your own words? Support your answer with the following parameters.

- (i) Name of its artist and the painting characteristic used in making it.
- (ii) The subject matter depicted in it and the message which artist wants to convey through this work of art.
- (iii) Also explain the technique of the medium used here.





DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
PRE BOARD - I (2024-25)

Class - XII
Time - 3 Hours

Subject - English
Maximum Marks- 80

Read the following instructions very carefully and strictly follow them.

1. This question paper has 13 questions. All questions are compulsory.
2. This question paper contains three sections-Sections A: Reading Skills, Section B: Creative Writing Skills and Section C: Literature.
3. Attempt all questions based on specific instructions for each part. Write the correct question number and part thereof in your answer sheet.
4. Separate instructions are given with each question/ part, wherever necessary.
5. Adhere to the prescribed word limit while answering the questions.

SECTION A
READING SKILLS

(22 marks)

1. Read the following passage carefully:

(12)

1. Inclusive education in India represents a progressive approach to integrating students of all abilities and backgrounds into the mainstream educational system. This paradigm shift aims to provide equitable learning opportunities, promote diversity, and foster a sense of belonging among all students, regardless of their physical, intellectual, social, or linguistic differences.
2. Implementing inclusive education in India faces several challenges. One major hurdle is the lack of adequately trained teachers who can address the diverse needs of students. Teacher training programmes often do not cover inclusive education strategies comprehensively, leaving educators ill-prepared to manage diverse classrooms. Additionally, infrastructural inadequacies, such as the absence of ramps, accessible toilets, and assistive technologies, further impede the inclusion of students with disabilities.
3. Societal attitudes and prejudices also pose significant barriers. Many communities harbor stigmatising views towards children with disabilities, leading to their marginalisation. Changing these mindsets requires extensive awareness campaigns and community engagement to foster acceptance and support for inclusive practices.
4. Despite these challenges, there have been notable efforts to promote inclusive education in India. Various Non-Governmental Organisations (NGOs) and governmental bodies are working towards creating more inclusive educational environments. For example, the Sarva Shiksha Abhiyaan (SSA) programme includes provisions for inclusive education, focusing on the enrolment and retention of children with special needs in regular schools.
5. The benefits of inclusive education are manifold. It nurtures empathy, collaboration, and mutual respect among students. Children learn to appreciate diversity and develop social skills that are essential for their overall growth. Inclusive education also ensures that all children, regardless of their abilities, can contribute to and benefit from the educational system, fostering a more just and equitable society.

6. In conclusion, inclusive education in India is a vital step towards building a more inclusive and equitable society. While significant challenges remain, concerted efforts from the government, educators, communities, and civil society can pave the way for a truly inclusive educational landscape that respects and values every child's potential.

Answer the following questions, based on the passage above.

- (i) What benefits does inclusive education offer? (2)
- (ii) Discuss the role of initiatives like Sarva Shiksha Abhiyan in promoting inclusive education. (1)
- (iii) Choose the word that best describes the tone of the passage. (1)
- (a) Positive
- (b) Complex
- (c) Sarcastic
- (d) Humorous
- (iv) Complete the following sentence with an appropriate phrase. (1)
- Teacher training programmes in India are not properly strategised to cover inclusive education comprehensively which results in _____
- (v) According to the passage, what is one of the major hurdles in implementing inclusive education in India according to the passage? (1)
- (a) Lack of governmental support
- (b) Societal prejudices
- (c) Inadequate funding
- (d) Overcrowded classrooms
- (vi) How do societal attitudes and infrastructural inadequacies pose challenges to inclusive education in India? (2)
- (vii) Complete the analogy with ONE word from the passage. (1)
- Mindset : Awareness :: Challenge : :
- (a) Progressive
- (b) Diverse
- (c) Hurdle
- (d) Extensive
- (viii) What could be a suitable title for the passage? (1)
- (a) The Role of Non-Governmental Organisations in Education
- (b) Advancing Inclusive Education in India: Challenges and Initiatives
- (c) The Importance of Teacher Training Programme
- (d) Societal Attitudes towards Children with Disabilities
- (ix) What measures can address the challenges to implementation of inclusive education? What efforts have been made so far in this direction? (2)

2. Read the passage carefully:

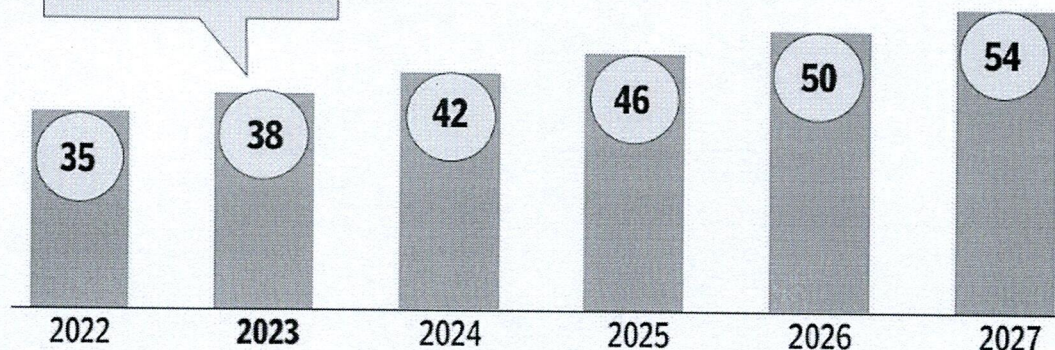
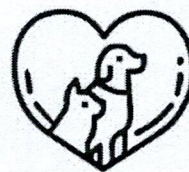
(10)

It may be raining cats and dogs in Indian homes. Quite literally. That would explain the rapid growth seen in India's pet care industry after the pandemic. According to industry players, lockdown loneliness - a factor exacerbated by the pandemic - gave rise to pet parenting in nuclear families. "Before the pandemic, we didn't even consider getting a dog. Then, Covid happened, as did Pepper, an eight-week-old Shih Tzu," said Vidhi Agarwal from Kolkata. Another pet parent from Mumbai, who adopted a cat during the pandemic, trusts and buys only a particular brand of pet food.

EXPANDING PAWPRINTS

➤ Of the 38mn pet population in India in '23, almost 34mn are dogs

India's pet population (in mn) is expected to grow at 9% annually in 2022-27



Source: Euromonitor International; (Projected figures for 2024-27)

The pet population in India is said to be over 38 million at present, and is expected to grow at a CAGR of 9.2% between 2022 and 2027, a study by market research provider Euromonitor International said. Pet adoption has increased not only in metros, but also in tier-2 and -3 cities.

"In tier-2 cities, specifically, factors such as rising disposable incomes, changing lifestyles favouring smaller pets due to smaller living spaces, and increased knowledge of the benefits of pet ownership and humanisation have further fuelled the trend of pet adoption," Sinha of Drools noted. "Another positive factor driving growth is the increasing number of Gen Z and millennial pet owners. These demographics are known as early adopters of new pet-related products and services, further fuelling the demand for innovative and high-quality pet care solutions," he added.

These pet parents are also willing to splurge on their furry friends' needs. Affluent households spend an average of Rs 4,500-5,000 per month on a pet, while others spend at least Rs 1,000-1,500, said Ashok Jaipuria, chairman and MD of pet care brand Zigly.

"The surge in pet parenting, coupled with easy access to information online, has revolutionised the purchasing behaviour of Indian households", Shashank Sinha, CEO of pet food brand Drools said.

While several consumer markets during Covid-19 pandemic recorded a slump, the healthcare crisis triggered a fast-paced growth for pet care industry in India.

Ranging from pet care, food products and pet health insurance, the industry is scaling up fast. According to industry experts, pet care services and pet care products market in India is about \$1.2 billion with 60% coming from products alone. In the industry, pet food, pet treats and pet services are seeing a good growth.

"The pandemic brought fresh attention to pet health care. We have seen even pet parents in Tier 2 and 3 consider the health needs of their pets through increased veterinary teleconsultations. In fact, 40% of our veterinary tele-consultations are for pets in Tier 3 towns. Pet products like food and treats are increasingly seeing differentiated health focused variants," said Siddharth Darbha, Co-founder, Wagr, a Super-App for Pet Care.

Answer the following questions, based on given passage.

- (i) What are the factors which led to people adopting pets in tier-2 cities? (2)
- (ii) On the basis of the given figure, pick out the statement that is incorrect: (1)
- (a) As per the data given, dog is the most popular pet in India.
 - (b) As per the projections, there will be a growth of about 19 million in the number of pets from 2024-2027.
 - (c) From 2022 to 2027 the annual growth in pet population is expected to be at 9%.
 - (d) The pet population includes other pets as well other than dogs.
- (iii) The purchasing behaviour of Indian households towards pet products has seen a revolution due to _____. (1)
- (iv) State True or False:
Demand for innovative and high-quality pet care solutions has gone up because of the people living in tier 2 & 3 cities. (1)
- (v) How big is the market of pet care services and products in India post -pandemic? (1)
- (vi) Which of the following organisations is engaged in market research for facts related to pets? (1)
- (a) Pet care brand Zigly
 - (b) Pet food brand Drools
 - (c) Euromonitor International
 - (d) A Freelancing agency
- (vii) Pet adoption is not just a fashion trend. Most of the pet parents have ensured good care for their pets. Justify the opinion on the basis of the passage given with at least two points. (2)
- (viii) Read the Assertion and Reason given below with reference to the given passage: (1)
- Assertion:** Lockdown loneliness caused by pandemic led to the growth in pet adoption.
Reason: Growing awareness around nutritional needs and lifestyle choices is positively impacting the uptake of pet food segment.
Choose the correct option regarding their relationship.
- (a) Both the assertion and the reason are true, and the reason is the correct explanation of the assertion.
 - (b) Both the assertion and the reason are true, but the reason is not the correct explanation of the assertion.
 - (c) The assertion is true, but the reason is false.
 - (d) The assertion is false, but the reason is true.

SECTION B

CREATIVE WRITING SKILLS

(18 marks)

3. Attempt ANY ONE of the two, (A) or (B).

(1x4=4)

- A. Fire Safety Department of Jaipur is going to conduct a mock-drill in all the schools of the city to prepare students for any fire accident. As Kritika, the School Prefect of Heritage School, Jaipur, write a notice in not more than 50 words inviting interested students of your school to volunteer for the drill which will be organised in your school campus.

B. MasterChef India is organising a hunt for best Home Cooks all over India for participation in its next season and has reached Cuttack in its journey. Sagar Co-operative Housing Society of the city is hosting the Auditions in its campus. As Manav Kaul, Secretary of the Society, write a notice informing the residents about it and asking the interested ones to participate in the competition. Do not exceed 50 words.

4. Attempt ANY ONE of the two, (A) or (B).

(1x4=4)

A. The President, Cultural Committee for Kutch Rann Mahotsav, has sent an invitation to Ms. Sitara Patel, a renowned folk singer to perform in its inaugural ceremony. As the Secretary of the singer, write a reply in about 50 words either accepting or declining the invitation on her behalf. You are Asha / Ashwin.

B. Lions Club, Amritsar is organising a big bash on the New Year's Eve. Draft an invitation to be sent to all its members. Do not exceed 50 words.

5. Attempt ANY ONE of the two, (A) or (B), in about 120-150 words.

(1x5=5)

A. You are Rudra of 39, Shalimar Road, Guwahati. You come across the following advertisement for a vacancy in a national newspaper and find yourself suitable for the job. Write a detailed job application proposing your candidature.

LIFELINE HOSPITAL, MUMBAI

Opening its new branch in Lucknow

Requires Hospital Administrator

with

**Qualification: degree/ diploma in Hospital/Health
Management**

Experience: Minimum 10 years in a reputed hospital

Skills: Teamwork, Problem-solving, multi-tasking.

**Attractive Pay package. Apply to Vice President, HR, Lifeline
Hospital, Mumbai within 10 days.**

B. With festive season round the corner, food adulteration accelerates in the sweet and snacks shops and roadside eateries, where the sole motive is to make profits. It results in serious health hazards for the consumers. Write a letter to the Editor raising your concern and suggesting ways to check this practice in public interest. You are Mudita of House No. 34/F, Gulmohar Colony, Patna. You may use the following hints:

- * Administration to be directly involved
- * Sample collection and testing
- * Strict instructions to follow safety norms
- * Penal action for defaulters

6. Attempt ANY ONE of the two, (A) or (B), in about 120-150 words.

(1x5=5)

A. In the wake of easy access to smartphones and in the world of reels and vlogs, public libraries are facing sheer neglect. Libraries other than being beacon of learning and research can be much more. As Latika, write an article on how libraries can become centres of community development with proper planning. You can use the ideas given below:

- * a place to learn new skills to generate employment
- * centre for organising seminars, workshops, counselling sessions
- * centre for community service
- * platform for innovation

B. You are K. Lalith, the Secretary of Literary Club of Triveni Public School, Prayagraj. Your school organised an extravagant Book Fair in collaboration with Gyan Bharti Publishing House, Lucknow. Other than thousands of books on display, some of the highlights of the fair were:

- * Interactive sessions with renowned authors
- * book signing event by a budding author
- * debates, competitive events etc.

Prepare a report on this event to be published in your school magazine.

SECTION C

LITERATURE

(Text book and supplementary Reading Text)

(40 marks)

7. Read the following extracts and answer the questions for ANY ONE of the given two-A or B:

(1x6=6)

A. "The hurt to the scenery wouldn't be my complaint
So much as the trusting sorrow of what is unsaid:
Here far from the city we make our roadside stand
And ask for some city money to feel in hand
To try if it will not make our being expand,
And give us the life of the moving-pictures' promise
That the party in power is said to be keeping from us."

- (i) What was the complaint against the stand?
- (ii) State True or False:
"The poor villagers want to earn some money from city people to check if it could improve their existing life."
- (iii) Which of the underlined phrases has the similar figure of speech as used in 'trusting sorrow'?
 - (a) There is no better trait in a man than being human.
 - (b) Flowing river in the vicinity added to the beauty of the landscape.
 - (c) Laughing Buddha sitting in the corner was the charm of the living room.
 - (d) For the younger generation America has always been a cultural melting pot.
- (iv) Villagers are disappointed with the government because _____.
- (v) Which of the following is an apt title for the extract?
 - (a) Sympathy
 - (b) The Agony of the Rural
 - (c) Manipulation
 - (d) A Broken Promise

- (vi) Read the Assertion and Reason given below with reference to the given extract:
Assertion: Roadside stand owners are attracted by the life shown in movies.
Reason: Political parties do not keep their promises.
Choose the correct option regarding their relationship.
(a) Both the assertion and the reason are true, and the reason is the correct explanation of the assertion.
(b) Both the assertion and the reason are true, but the reason is not the correct explanation of the assertion.
(c) The assertion is true, but the reason is false.
(d) The assertion is false, but the reason is true.

B. "Aunt Jennifer's fingers fluttering through her wool
Find even the ivory needle hard to pull.
The massive weight of Uncle's wedding band
Sits heavily upon Aunt Jennifer's hand."

- (i) Which of the following best explains a symbolism that has been used in the given extract?
(a) Aunt Jennifer's hands representing herself
(b) Tigers representing Uncle
(c) Men beneath the trees representing humanity
(d) Wedding band representing strength and chivalry
- (ii) State True or False:
The wedding band sitting on Aunt's hand signifies that she is a fashionable woman.
- (iii) What does Uncle's character reflect?
(a) Man's physical strength
(b) Protectiveness
(c) Selfishness
(d) Patriarchy
- (iv) The fluttering fingers indicate Aunt Jennifer's _____.
- (v) What does the "the massive weight of Uncle's wedding band" imply?
- (vi) Select the suitable option for the given statements:
Statement I: Aunt Jennifer finds refuge in her work of art.
Statement II: Aunt Jennifer's husband makes it difficult for her to pursue her artistic talents.
(a) Both I and II can be inferred from the text.
(b) Both I and II cannot be inferred from the text.
(c) I can be inferred from the text but not II.
(d) II can be inferred from the text but not I.

8. Read the following extracts and answer the questions for ANY ONE of the given two-A or B:
(1x4=4)

A. "I care nothing for the man, Excellency," Sadao said, "but having operated on him with such success..."

"Yes, yes" the General said. "It only makes me feel you more indispensable to me. Evidently you can save anyone — you are so skilled. You say you think I can stand one more such attack as I have had today?"

"Not more than one," Sadao said.

"Then certainly I can allow nothing to happen to you," the General said with anxiety. His long pale Japanese face became expressionless, which meant that he was in deep thought. "You cannot be arrested," the General said, closing his eyes. "Suppose you were condemned to death and the next day I had to have my operation?"

- (i) Which act of Sadao made the General feel that he (Sadao) was indispensable for him?
- (ii) "I care nothing for the man...". Why does Sadao make this comment?
 - (a) His experience in America had been bitter
 - (b) He was afraid of being arrested
 - (c) He thought the man to be his enemy
 - (d) He was pretending in front of the General
- (iii) General's patriotism can come under scanner because _____.
- (iv) What was the thought that made General anxious?

B. "The note is signed Sam.

At the stamp and coin store I go to, I found out that Sam bought eight hundred dollars' worth of old-style currency. That ought to set him up in a nice little hay, feed and grain business; he always said that's what he really wished he could do, and he certainly can't go back to his old business. Not in Galesburg, Illinois, in 1894. His old business? Why, Sam was my psychiatrist."

- (i) Which note is being referred to here?
- (ii) Sam had bought old-style currency at the stamp and coin store because _____.
- (iii) Why couldn't Sam go back to practising Psychiatry in 1894 Galesburg?
- (iv) Sam's wish to set up a hay and grain business suggests that
 - (a) He was fed up of the rush of city life
 - (b) He was impressed by the old-world charm
 - (c) He wanted to enjoy simplistic living
 - (d) He wanted peace and calm of a small town

9. Read the following extracts and answer the questions for ANY ONE of the given two-A or B: (1x6=6)

A. "They talk endlessly in a spiral that moves from poverty to apathy to greed and to injustice.

Listening to them, I see two distinct worlds— one of the family, caught in a web of poverty, burdened by the stigma of caste in which they are born; the other a vicious circle of the sahu-kars, the middlemen, the policemen, the keepers of law, the bureaucrats and the politicians. Together they have imposed the baggage on the child that he cannot put down. Before he is aware, he accepts it as naturally as his father. To do anything else would mean to dare. And daring is not part of his growing up."

- (i) Who are 'they' in the first sentence?

- (ii) What is the central message conveyed by "Lost Spring" regarding the cycle of poverty?
 - (a) Poverty can only be eradicated through government intervention.
 - (b) Poverty is an inescapable fate for those born into marginalised communities.
 - (c) Poverty perpetuates itself through generations unless systemic changes are made.
 - (d) Poverty is a temporary condition that individuals can overcome through hard work and determination.
- (iii) Baggage is a metaphor for _____.
- (iv) What does the 'stigma of caste' refer to in the above lines?
- (v) Why is the other world called a 'vicious circle'?
- (vi) Daring is not part of a child's growing up because
 - (a) He has been trained to obey silently
 - (b) He is compelled to follow the family occupation
 - (c) Family has no resources to let the child bloom
 - (d) Both b and c

B. "But of course it is you, Nils Olof!" he said. "How you do look!"

The man with the rattraps had never before seen the ironmaster at Ramsjö and did not even know what his name was. But it occurred to him that if the fine gentleman thought he was an old acquaintance, he might perhaps throw him a couple of kronor. Therefore, he did not want to undeceive him all at once. "Yes, God knows things have gone downhill with me", he said. "You should not have resigned from the regiment", said the ironmaster. "That was the mistake. If only I had still been in the service at the time, it never would have happened. Well, now of course you will come home with me."

- (i) What does the expression 'things have gone downhill' mean?
- (ii) Why does the protagonist not reveal his true identity?
 - (a) He was afraid of not getting food and shelter
 - (b) He hoped for some monetary help from the ironmaster
 - (c) He just casually went along with the situation
 - (d) He was hoping to escape getting arrested
- (iii) Complete the sentence appropriately.
 The extract suggests that the peddler was an incorrigible fellow because apparently, he _____.
- (iv) What information do we infer about Nils Olof from Ironmaster's dialogue?
- (v) Choose the appropriate word:
 Ironmaster is _____ (impulsive/cautious) in his treatment with a stranger.
- (vi) Which of the following idiomatic expressions best suggests the doings of the peddler?
 - (a) Pull wool over someone's eyes
 - (b) To err is human, to forgive is divine
 - (c) Slip of the tongue
 - (d) The sleep of the just

10. Answer ANY FIVE of the following six questions in 40 - 50 words each: (5x2=10)

- (i) Failure to respect one's own language results in facing contempt from the foreigners. How does M Hamel make the people of Alsace realise this?
- (ii) Vincent van Gogh said, "What would life be if we had no courage to attempt anything." Douglas could have spent his entire life without trying any water activity. Why was it important for him to get rid of his fear?
- (iii) Rudyard Kipling criticised interviews in very strong terms, yet his views lack genuineness. Comment.
- (iv) When Gandhi appeared in court at Motihari for the violation of government order, he read a statement pleading guilty even though his cause was just. What arguments did he present before the magistrate?
- (v) Beauty is subjective and is based on the pleasure we experience when we look at or listen to something or experience it. Explain the statement with reference to the definition given by Keats, "a thing of beauty is a joy forever."
- (vi) "...prose writing is not the true pursuit of a genius. It is for the patient, persistent, persevering drudge with a heart so shrunken that nothing can break it". Elucidate this statement of Ashokamitran.

11. Answer ANY TWO of the following three questions in 40 - 50 words each: (2x2=4)

- (i) Students are learning about threats to environment regularly through their books and various other sources. How would an expedition to Antarctica make a difference?
- (ii) The Dewan provided the tiger he had brought from People's Park in Madras as the hundredth one to be killed by the Maharaja. What is the significance of an old and weak tiger in the story of the mighty Tiger King?
- (iii) Mr. Lamb tells Derry about a man who remained confined to his room for the fear of being hurt or killed but could not evade death finally. What does he want Derry to interpret from this story?

12. Answer ANY ONE of the following two questions, in about 120-150 words. (1x5=5)

A. Both Pablo Neruda and Adrienne Rich discuss relevant issues concerning human beings in their poems. Yet, there is a difference in their approach towards dealing with these issues. Neruda provides solution for the entire humanity while on the other hand Aunt Jennifer's life as well as death is shrouded in oppression.

Let us suppose that Aunt Jennifer was able to lead a fearless and free life following Pablo Neruda's advice. As Aunt Jennifer, write a diary entry describing how did the idea of introspection help her in overcoming the ordeals in her life.

You may begin like this:-

" Oh! What an ordeal my life had been ..."

B. Office Boy had come to Chennai with dreams in his eyes to become a big star in films but ended up doing make-up of crowd players. Sophie too has big dreams for her future, but doesn't show any determination to work towards realizing them. As Office boy, write a letter to Sophie telling her that only daydreaming is futile. Guide her, referring to your own experiences, how she can achieve her ambition.

You may begin like this:-

" Dear Sophie,

I have come to know about your dreams ..."

13. Answer ANY ONE of the following two questions, in about 120-150 words. (1x5=5)

- A.** You are an activist of human rights and advocate social equality strongly. Write a column for a newspaper on how the childhood of Bama and Zitkala-Sa could inspire people to fight their battles against discrimination.
- B.** From being ready to leave the garden at the sight of a man to rebelling against his mother to go back to the garden, Derry's personality undergoes complete transformation in just few hours. What was holding back Derry earlier and what brings about the change in him? Describe Derry's evolution from a withdrawn boy to a confident one with suitable examples from the play.
-



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE BOARD I (2024-25)

Class - XII
Time - 2 Hours

Subject - Odissi Dance (059)
Maximum Marks- 30

General Instructions:

1. The Question Paper contains three sections: A, B and C.
2. Section A has 12 questions. Attempt any 08 questions. 08 Marks
3. Section B has 08 questions. Attempt any 05 questions. 10 Marks
4. Section C has 5 questions. Attempt any 2 questions. 12 Marks

SECTION - A

(1X8=8)

1. Purulia Chhau uses which types of Mask?
a) small b) Big c) none d) medium
2. Tripatataal has how many beats?
a) Seven b) six c) five d) four
3. Tribhangi pose depicts how many bends of our body?
a) Two b) four c) three d) five
4. Abhinaya Chandrika is written in which Language?
a) Odiya b) Sanskrit c) Telagu d) Pali
5. Guru Pankaj Charan Dash has which style of Odissi Dance?
a) Gotipua b) Devdasi c) Mahari d) Sambalpur
6. Which text particularly talks about Odissi Aharya?
a) Natya Shastra b) Abhinay Darpan c) Abhinay Chandrika d) Geet Govind
7. Vachika Abhinay talks about?
a) Bhaav b) Rasa c) Dialogue d) Mudra
8. How many Sattvik Bhavas are there?
a) 4 b) 9 c) 8 d) 1
9. When was Natyashastra written?
a) 800BCE b) 200BCE c) 1500CE d) 2000BCE
10. Which Chhau dance uses back flip continuously?
a) Purulia b) Sareikela c) Mayurbhanj d) None of these
11. What is the name of opposite turn Bhramari ?
a) Utpluta Bhramari b) Akasha Bhramari c) Viparita Bhramari d) Anga Bhramari
12. Generally Pallavi dance deals with?
a) Technique b) Abhinaya c) Hand gesture d) Rasa

SECTION - B

(2X5=10)

13. (a) What do you know about Rasa?
- (b) Name any four folk dances of Odisha.
- (c) What are the two main 'Bhavas' used in the production of a 'Rasa' ?
- (d) Write any one Odissi Taal with its calculation of Matra, Vibhaag, and Chhanda.
- (e) What is another name of 'Manjira' and explain it?
- (f) Define laya and write the name of 3 layas?
- (g) Describe the Music of Chhau dance.
- (h) Define the term Lokadharmi.

SECTION - C

(2X6=12)

14. (a) Write a short note on Natyadharmi and Lokdharmi.
- (b) Define the terms: Nritya, Nritya and Natya.
- (c) Give the origin of dance according to the 'AbhinayaDarpan'.
- (d) Write about the introduction of the text Abhinaya Chandrika and what is mainly described in the Text?
- (e) Write short biography about Guru Pankaja Charan Das?
-