



**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

**Class - XII**  
**Time - 3 Hours**

**Subject - Accountancy**  
**Maximum Marks- 80**

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**General Instruction**

1. Attempt all questions
  2. Show working notes where applicable.
  3. Attempt all parts of a questions together.
  4. Marks are indicated against each question.
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1. When there is no partnership Deed the partners are entitled to which of the following?  
(A) Salary  
(B) Profit share in capital ratio  
(C) Interest on Loan and advances  
(D) Commission [1]
2. Pick the odd one out :  
(A) Interest on capital  
(B) salary to a partner  
(C) Commission to a partner  
(D) Interest on drawings [1]
3. which of the following item is not dealt through Profit and Loss appropriation Account  
(A) Interest on Partner's Loan  
(B) Partner's salary  
(C) Interest on Partner's drawings  
(D) Partner's Commission [1]
4. Rahul and Shubham are Partners in a partnership firm Rahul withdraws Rs.4000 during the year as drawings. Interest on drawing is charged at the rate of 15% per annum. The amount of interest on drawings at the end of the Year will be:  
(A) Rs.300  
(B) Rs.600  
(C) Rs.1200  
(D) Rs.150 [1]
5. What will be the interest on capital for C, @ 6% per annum for A ,B andC who have invested rupees 15000 rupees 25000 and rupees 30000 and share profits in the ratio of 1:2:3.?  
(A) Rs.900  
(B) Rs.1,500  
(C) 1,800  
(D) Nil [1]

6. Intangible asset goodwill has been defined in:
- (A) AS-16
  - (B) AS-20
  - (C) AS-26
  - (D) AS-21
- [1]
7. Avi and Barbie were partners in a firm sharing profits or losses equally. With effect from first April 2021 they agreed to share profits in the ratio of 3:4. Due to the change in the profit sharing ratio Avi's gain or sacrifice will be:
- (A) Gain 1/14
  - (B) Sacrifice 1/14
  - (C) Gain 4/7
  - (D) Sacrifice 3/7
- [1]
8. Bishan and Sudha were partners in a firm sharing profits and losses in the ratio of 5 :3 Alina was admitted as a new partner, It was decided that the new profit sharing ratio of Bishan, Sudha and Alina will be 10 : 6 :5 the sacrificing ratio of Bishan and Sudha will be :
- (A) 5:3
  - (B) 25:78
  - (C) 6:5
  - (D) 2:1
- [1]
9. On admission of a new partner increase in the value of the asset is debited to:
- (A) P&L Adjustment Account
  - (B) Assets Account
  - (C) Old Partner's Capital Account
  - (D) None of the above
- [1]
10. Balance in the Investment Fluctuation reserve ,after meeting the loss on revaluation of Investments, at the time of admission of a partner will be transferred to:
- (A) Old partners capital account
  - (B) Revaluation Account
  - (C) Sacrificing ratio
  - (D) None of the above
- [1]
11. Chaman ,Raman ,and Suman are partners sharing profits in the ratio of 5:3:2 Raman retires. The new profit sharing ratio between Chaman and Suman will be 1:1 .The Goodwill of the firm is valued at Rs.1,00,000 .Raman's share of goodwill will be adjusted:
- (A) by debiting Chaman's capital account and suman's capital account with rupees 15000 each
  - (B) by debiting Chaman's capital account and Suman's capital account with Rs.21,429 and Rs.8571 respectively
  - (C) by debiting only Suman's capitalAccount with Rs.30,000
  - (D) by debiting Raman's capital account with Rs.30,000
- [1]
12. A,B,C are partners, C expired on 18th December 2019 and as per agreement surviving partners A and B directed the accountant to prepare the financial statements as on 18th December 2019 and accordingly the share of profit of C, (deceased partner ) was calculated as Rs. 12,00,000 which account will be is suitable to transfer C's share of profit:
- (A) Profit and Loss Suspense Account
  - (B) Profit and Loss Appropriation Account
  - (C) Profit and Loss Account
  - (D) None of the above
- [1]

13. Anita and Babita are partners sharing profits and losses as 3:2. Chandni is admitted and profit sharing ratio becomes 4:3:2. Goodwill is valued at rupees 94,500. Chandni brings required Goodwill in cash. Goodwill amount that will be brought in by Chandni is:
- (A) Rs. 10,500  
 (B) Rs. 94,500  
 (C) Rs. 21,000  
 (D) None of the above [1]
14. When the value of goodwill is not specified at the time of the admission of a partner is called \_\_\_\_\_
- (A) Goodwill in kind  
 (B) Hidden Goodwill  
 (C) Both A and B  
 (D) Neither A nor B [1]
15. ESOP offered by the company will create
- (A) High calibre  
 (B) sense of belongingness in employees  
 (C) High productivity  
 (D) All the above [1]
16. Subscription of shares should not be less than \_\_\_\_\_% of the issued shares.
- (A) 85%  
 (B) 90%  
 (C) 95%  
 (D) 100% [1]
17. Y Ltd invited applications for 10,000 Shares of Rs. 10 each. Applications were received for 9000 shares. Identify the kind of subscription
- (A) Undersubscription  
 (B) Oversubscription  
 (C) Full subscription  
 (D) None of the above [1]
18. A forfeited share can -----
- (A) not be reissued at discount  
 (B) reissued at a maximum discount of 10%  
 (C) be re-issued at a maximum discount equal to the amount forfeited  
 (D) None of the above [1]
19. Share Allotment Account is a/an
- (A) Personal Account  
 (B) Real Account  
 (C) Nominal Account  
 (D) None of these [1]
20. Pick the odd man out
- (A) Issue of shares to Vendors  
 (B) Issue of Shares to general public  
 (C) Issue of shares to underwriters  
 (D) Issue of shares to promoters [1]

21. K Limited took over the assets of Rs.15,00,000 and liabilities of Rs.5,00,000 of P Limited .for a purchase consideration of Rs.13,68,500. Rs. 25,500 were paid by issuing a promissory note in favour of P Limited Payble after two months and the balance was paid by issue of equity shares of Rs.100 each at a premium of 25%.  
Pass the necessary journal entries for the above transactions in the books of K Limited. [3]
22. Shivpriya Ltd. was formed with a nominal share capital of Rs.50,00,000 divided into 50,000 share of Rs.100 each. The Company offers 30,000 shares to the public payable Rs. 30 per share on Application, Rs.30 per share on Allotment and the balance on first and final call. Applications were received for 28,000 shares. All money payable on allotment was duly received, except on 500 shares held by X. First and final call was not made by the company. How would you show the "Share Capital" in the balance Sheet of Shivpriya Ltd.? Also prepare notes to accounts for the same. [3]
23. Ravi, Shankar and Madhur are Partner's in a firm sharing profits in the ratio of 7:2:1 .On 31st March 2018, the firm was dissolved after transferring sundry assets other than (cash in hand and cash at Bank )and third party liabilities in the realization account the following transactions took place .
- 1 . Debtors amounting to Rs.1,40,000 were handed over to a debt collection agency which charged 5% Commission. The remaining debtors were Rs.47,000 out of which debtors of Rs. 17,000 could not be recovered because the same became insolvent.
  2. Creditors amounting Rs.5,000 were paid Rs.3,500 in full settlement of their claim and the balance creditors were handed over stock of rupees 90,000 in full settlement of the claim of rupees 95000 .
  3. A bill receivable of Rs.2000 discounted with the bank was dishonoured by its acceptor and the same had to be met by the firm.
  4. Profit on realisation amounted to Rs.6000.
- Pass the necessary journal entries for above transactions in books of Ravi,Shankar,and Madhur. [4]
24. D ,E, and F . are sharing profits and losses in the ratio of 5:3:2 they decided to share profits and losses in the ratio of 2:3:5 with effect from 1st April 2020. They also decide to record the effect of the following without affecting their book values, by passing an adjusting entry
- |                                     |                     |
|-------------------------------------|---------------------|
| General Reserve                     | Book value 1,50,000 |
| Contingency Reserve                 | Book value 25000    |
| Profit and Loss Account (Cr)        | Book Value 75000    |
| Advertisement Suspense Account (Dr) | Book value 1,00,000 |
- [4]
25. Leela and Meeta were partners in a firm sharing profits and losses in the ratio of 5:3 .On first April 2018 , they admitted OM as a new partner .On the date of OM's admission the balance sheet of Leela and Meeta showed a balance of Rs.1,60,000 in general reserve and Rs. 2,40,000 (Cr) in Profit and Loss account. Record the necessary journal entries for the treatment of these item on OM's admission the new profit sharing ratio between Leela Meeta and OM was 5:3:2. [4]
26. A ,B and C are sharing profits in the ratio of 3:2:1. Goodwill is appearing in the books at a value of Rs.2,40,000 .B retires and on the day of B's retirement Goodwill is valued at Rs.6,00,000 . A and C decided to Share future profit in the ratio of 3:2 .Pass the necessary Journal entries . [4]

27. Astha and Gomti are partners in a firm sharing profits and losses in the ratio of 2:1. Their capital accounts as on 1<sup>st</sup> April, 2019 stand at Rs. 70,000 and Rs. 30,000 respectively. The partners are allowed interest on capital @ 10% p.a. The drawings of the partners during the year ended 31<sup>st</sup> March, 2020 amounted to Rs. 4800 and Rs. 3600 respectively. Interest is charged on drawings at the rate of 10% p.a.

Astha has given a loan to firm as on 1<sup>st</sup> November, 2019 of Rs.20,000.

The profit of the firm before above adjustments was Rs. 80,000. 10% of this profit is to be kept in Reserve Account. [4]

Prepare profit and Loss Appropriation Account.

28. Given below is the balance Sheet of A and B, Who are carrying on partnership business as at 31<sup>st</sup> March 31<sup>st</sup>, 2017. A and B share profits and losses in the ratio of 3:2.

Liabilities	Rs	Assets	Rs.
Bills payable	6,000	Cash	28,750
Creditors	30,000	Sundry Debtors	80,000
Outstanding Expenses	14,000	Stock	30,000
Capitals		Plant	1,00,000
A 2,00,000		Buildings	1,50,000
B <u>1,50,000</u>	<u>3,50,000</u>	Goodwill	11,250
	<u>4,00,000</u>		<u>4,00,000</u>
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On the date, they agree to admit C as a partner on the following terms:

- C will get  $\frac{1}{4}$  th share in profits.
- New profit sharing ratio shall be 3:3:2.
- Goodwill shall be valued on 2  $\frac{1}{2}$  years purchase of the past four years average profits, Which were Rs.17,000 ; Rs. 14,000; Rs.15,000 and Rs. 20,000 respectively.
- C will introduce Rs. 40,000 as capital.
- Plant is to be appreciated to Rs. 1, 20,000 and the value of buildings is to be appreciated by Rs. 20,000..
- Stock is found overvalued by Rs. 5,000.
- Creditors were unrecorded to the extent of Rs.1,000

Prepare partner's capital accounts.

[6]

29. X, Y and Z share profits and Loss in the ratio of 4: 3: 2 . Their Balance sheet as at 31<sup>st</sup> March 2016 was as follows.

Liabilities	Rs	Assets	Rs.
Creditors	1,50,000	Plant and Machinery	6,00,000
Workmen Compensation Reserve	75,000	Stock	2,00,000
Capital A/Cs		Investments	20,000
X   5,20,000		Sundry Debtors   2,50,000	
Y   3,81,000		Less : Provision for <u>8,000</u>	
Z <u>3,00,000</u>	12,01,000	Doubtful Debts	2,42,000
		Cash at Bank	<u>3,64,000</u>
	<u>14,26,000</u>		<u>14,26,000</u>

Z retires on this date and his share of goodwill is valued at Rs. 80,000. New profit sharing ratio between X and Y is agreed at 5:3. It was agreed that:

- (i) 10% depreciation is to be charged on plant and Machinery and stock is to be increased by Rs. 15,000.
- (ii) Bad debts amounting to Rs. 20,000 will be written off.
- (iii) The claim on account of workmen compensation is estimated at Rs.30,000.
- (iv) Creditors are to be paid Rs.15,000 more and outstanding expenses of Rs.2,000 are to be recorded.
- (v) Investments are valued at Rs.16,000. Z takes over investments at this value.
- (vi) An unrecorded stock of stationary is Rs. 6,000.
- (vii) Z is to be paid Rs. 3,00,000 in cash and the balance is to be transferred to his loan A/c.

Prepare Revaluation Account, Capital Accounts.

[6]

30. X, Y and Z are partners in a business sharing profits as  $\frac{3}{4}$ ,  $\frac{1}{8}$ , and  $\frac{1}{8}$  respectively and their balance sheet as at 31<sup>st</sup> March , 2019 was:

Liabilities	Rs	Assets	Rs.
Capital A/cs:		Plant	5,00,000
X   5,00,000		Debtors	4,00,000
Y   3,00,000		Stock	2,00,000
Z <u>2,50,000</u>	10,50,000	Cash	50,000
General Reserve	50,000	Bank	2,50,000
Z's Loan	50,000		
Creditors	2,50,000		
	<u>14,00,000</u>		<u>14,00,000</u>

Z died on 31<sup>st</sup> December, 2019 and the partnership Deed provided the following:

- i. The deceased partner will be entitled to his share of profits up to the date of death, calculated on the basis of previous year's profits.
- ii. He will be entitled to his share of goodwill of the firm , calculated on the basis of three years ' purchase of the average profits of the last four years . The net profits for the last four years ended 31<sup>st</sup>. March , were : 2016 - Rs. 8,00,000; 2017 - Rs.6,00,000; 2018 - Rs.4,00,000 and 2019 - Rs. 2,00,000.
- iii. His drawing up to the date of death was Rs. 18,000.

Determine the amount payable to the legal representatives of the deceased partner by preparing the necessary accounts. [6]

31. A ,B ,and C are partners sharing profits in their Capital Ratio. They decided to dissolve the firm on 30<sup>th</sup> Sep. 2016, at which date their Balance sheet was as follows:

Liabilities	Rs	Assets	Rs.
Provident Fund	15,000	Plant and Machinery	2,00,000
Workmen Compensation Res	25,000	Land and Buildings	4,00,000
Creditors	1,60,000	Furniture	10,000
Capitals:		Debtors 1,50,000	
A 3,50,000		Less: Provision <u>10,000</u>	1,40,000
B 2,10,000		Bank	70,000
C <u>1,40,000</u>		Cash	10,000
	7,00,000	Goodwill	15,000
		Prepaid Expenses	5,000
		Advertisement Suspense Account	50,000
	<u>9,00,000</u>		<u>9,00,000</u>

You are informed that:

- i. Plant realized at 60% and land and building at 150%.
- ii. Debtors were realized at 80% and Rs.5,000 were recovered for bad debts written off last year.
- iii. Rs.20,000 had to be paid for provident fund.
- iv. 50% creditors were settled at 90% and the remaining creditors were paid in full.
- v. Claim for workmen compensation amount amounted to Rs.40,000.
- vi. There was an old typewriter in the firm which had been written off completely from the books. It is taken away by A at Rs.2,000.
- vii. Realization expenses were to be borne by B for which he is to get a commssion of Rs.15,000.

Actual realization expenses paid out of firm's Bank Account amounted to Rs. 20,000.

Prepare necessary Accounts.

[8]

32. Pioneer Ltd. invited applications for 11,000 shares of Rs.100 each to be issued at a premium of 10% payable as follows:

On application                      Rs. 25

On allotment                         Rs. 40

On first and final call            Rs.35

Applications were received for 10,000 shares and all of these were allotted . All the money due was received except the first and final call on 100 shares which were forfeited. 60 of these forfeited shares were reissued @ Rs. 90 per share credited as fully paid.

You are required to:

Pass the necessary Journal Entries.

[8]

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**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

Class - XII  
Time - 3 Hours

Subject - Biology  
Maximum Marks- 70

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**General Instructions:-**

- (i) All questions are compulsory.
  - (ii) The question paper has four sections: Section A, Section B, Section C and Section D. There are 33 questions in the question paper.
  - (iii) Section-A has 14 questions of 1 mark each and 02 case-based questions. Section-B has 9 questions of 2 marks each. Section-C has 5 questions of 3 marks each and Section-D has 3 questions of 5 marks each.
  - (iv) 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.
  - (v) Wherever necessary, neat and properly labelled diagrams should be drawn.
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**SECTION-A**

1. How many meiotic divisions are required to produce 44 seeds in a Mango fruit?
2. State the two factors responsible for conferring stability to double helix structure of DNA.
3. List two characteristics of mutation that help in explaining evolution as proposed by Hugo de Vries.
4. A couple has two daughters. What is the probability that the third child will also be a daughter? Give reason.
5. Write the physiological reason, why a woman generally cannot conceive a child after 50 years of age?
6. Differentiate between the *Homo habilis* and *Homo sapiens*.
7. Mention any two applications of DNA fingerprinting.
8. State the two major tasks of RCH programmes.
9. What is the role of  $\text{CaCl}_2$  in preparation of competent cells?
10. Name the pattern of inheritance where F1 phenotype
  - (a) does not resemble either of the two parents and is in between the two.
  - (b) resembles only one of the two parents
11. Assertion: One of the two strands of DNA is called sense strand and other is called antisense strand.  
Reason: Sense strand of DNA forms complementary RNA.
  - (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) Assertion is true but Reason is false.
  - (d) Both Assertion and Reason are false.

12. Assertion: Very often persons suffering from sexually transmitted diseases (STDs) do not go for timely detection and proper treatment.  
Reason: Absence or less significant symptoms in the early stages of STDs and the social stigma attached to the disease.
- (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) Assertion is true but Reason is false.
  - (d) Both Assertion and Reason are false.

OR

Assertion: Artificial insemination is method of introduction of semen inside the female.

Reason: This technique is used in those cases where males have low sperm count.

- (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) Assertion is true but Reason is false.
  - (d) Both Assertion and Reason are false.
13. Assertion: Darwin's finches of Galapagos Islands have different types of modified beaks according to their food habits.  
Reason: Adaptive radiation leads to development of different functional structure from a common ancestral form.
- (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) Assertion is true but Reason is false.
  - (d) Both Assertion and Reason are false.
14. Assertion: In a monohybrid cross, F1 generation indicate dominant characters.  
Reason: Dominance occurs only in heterozygous state.

- (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) Assertion is true but Reason is false.
- (d) Both Assertion and Reason are false.

15. Read the following and answer any **four** questions from 15(i) to 15(v) given below:

Genes are segments of Deoxyribonucleic Acid (DNA) that contains the code for a specific protein that functions in one or more types of cells in the body. Chromosomes are structures within cells that contain a person's genes. Genes are passed down the generations in a particular manner and we receive roughly half our genetic material from each parent. Chromosomes describe and determine gender and any changes in them causes chromosomal abnormalities.

- (i) The concept of chromosome movement during meiosis to explain Mendel's laws was used by
  - (a) Sutton and Boveri
  - (b) Malthus
  - (c) Correns
  - (d) T.H.Morgan
- (ii) Crossing over in diploid organism is responsible for
  - (a) segregation of alleles
  - (b) recombination of linked genes
  - (c) dominance of genes
  - (d) linkage between genes

- (iii) If the genes are located in a chromosome as A-B-C-D-E-O-T. Which of the gene pairs will have least probability of being inherited together?
- C and D
  - A and T
  - A and B
  - O and T
- (iv) Both chromosome and gene (Mendelian factors) whether dominant or recessive are transmitted from one generation to next generation in
- changed form
  - unaltered form
  - altered form
  - disintegrated form
- (v) Assertion: Behaviour of chromosomes is parallel to gene.  
Reason: Genes are located on the chromosomes.
- If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
  - If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
  - Assertion is true but Reason is false.
  - Both Assertion and Reason are false.

16. Read the following and answer any **four** questions from 16(i) to 16(v) given below:

Selectable marker is a gene, which helps in selecting transformed host cells and eliminating non-transformants. The process of selection of recombinants from non-recombinants occurs as the transformants containing tetracycline resistant gene are plated on an ampicillin containing medium. The mixture is then transferred on a medium containing tetracycline. The recombinants will form colonies in ampicillin medium, but will not form colonies in tetracycline medium. The non-recombinants will grow on both the mediums thus separating out recombinants from non-recombinants. An alternative method used for the selection of transformed cell is known as insertional inactivation.

- When an alien DNA is ligated in tetracycline resistant gene, the recombinant
  - become tetracycline resistant
  - will lose tetracycline resistant
  - will remain same
  - None of the above
- In insertional inactivation, the recombinant DNA is inserted within the coding sequence of
  - Beta-galactosidase
  - tetracycline resistant gene
  - restriction enzyme
  - ampicillin resistant gene
- Recombinant colonies in insertional inactivation are differentiated on the basis of
  - production of blue colour
  - production of no colour
  - production of red colour
  - production of green colour
- Which of the following is/are function(s) of a selectable marker?
  - Provides resistance against substrate
  - Inhibits the growth of normal cell in a culture
  - Helps to create a chromosome map
  - Both (a) and (b)

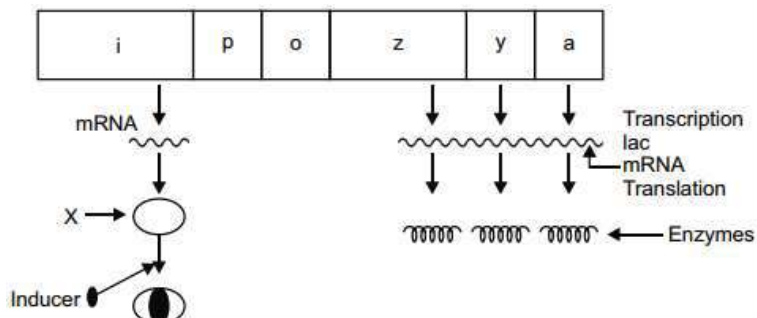
(v) Assertion: Selection of recombinants due to inactivation of antibiotics is cumbersome procedure.

Reason: It requires simultaneous plating on two plates having different antibiotics.

- (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) Assertion is true but Reason is false.  
(d) Both Assertion and Reason are false.

### SECTION-B

17.



(a) Name the molecule 'X' synthesised by 'i' gene. How does this molecule get inactivated?

(b) When will the transcription of the structural genes stop?

18. Geitonogamous flowering plants are genetically autogamous but functionally cross-pollinated. Justify.

19. Name and state the role of the inner and middle walls of human uterus.

**OR**

Mention the sites of action of the hormones GnRH and FSH during spermatogenesis in human males. Give one function of each of the hormone.

20. Explain with the help of a suitable example the naming of a restriction endonuclease.

21. How do 'implants' act as an effective method of contraception in human females? Mention its one advantage over contraceptive pills.

22. Give reason

(a) Micropyle remains as a small pore in the seed coat of a seed.

(b) Apple and cashew are not called true fruits.

23. List the criteria of a molecule that can act as a genetic material must fulfill.

**OR**

(a) Differentiate between unambiguous and degenerate codons.

(b) Write two functions of the codon AUG.

24. STDs can be prevented by self-consciousness. Comment with two reasons.

25. Describe the neuroendocrine mechanism of parturition.

### SECTION-C

26. Explain the processing the hnRNA needs to undergo before becoming functional mRNA in eukaryotes.

27. How does Hardy-Weinberg's expression explain that genetic equilibrium is maintained in a population? List any two factors that can disturb the genetic equilibrium.

28. Give reasons for the following observations:

- (a) Genes for body colour and eye colour in *Drosophila* show less recombination frequency.
- (b) Number of chromosomes is higher in female cockroach than in male cockroach.
- (c) Possibility of a female becoming haemophilic is extremely rare.

**OR**

Write the reasons for which Mendel's work was not recognised till 1900s.

29. Draw a diagram of pBR322 and label ori, amp<sup>R</sup> and rop. Also mention their roles.

30. Differentiate between convergent and divergent evolution. Give one example of each.

### SECTION-D

31. In dogs, barking trait is dominant over silent trait & erect ears are dominant over drooping ears. What is the expected phenotypic and genotypic ratio of the F<sub>2</sub> progeny when dogs homozygous for both the traits are crossed? State the law deduced by Mendel from this cross.

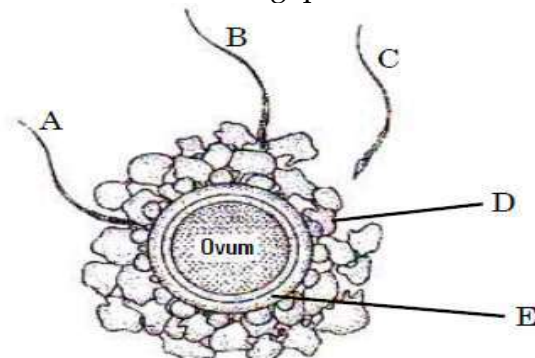
**OR**

- (a) How does a chromosomal disorder differ from a Mendelian disorder?
- (b) Name any two chromosomal aberration associated disorders.
- (c) List the characteristics of the two disorders mentioned above.

32. The zygote passes through several developmental stages till implantation. Describe each stage briefly with suitable diagrams.

**OR**

Given below is the diagram of a human ovum surrounded by a few sperms. Study the diagram and answer the following questions :



- (a) Compare the fate of sperms shown in the diagram.
- (b) What is the role of 'D' in this process?
- (c) Analyze the changes occurring in the ovum during the process.
- (d) How is the entry of sperm into the ovum facilitated ?
- (e) Specify the region of female reproductive system where the event represented in the diagram takes place.

33. (a) Explain the mechanism of DNA replication, highlight the role of enzymes in the process.  
(b) Why is DNA replication said to be semiconservative?

**OR**

- (a) Describe the various steps of Griffith's experiment that led to the conclusion of the 'transforming principle'.
- (b) How did the chemical nature of the 'transforming principle' get established?



# DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hours

Subject - Business Studies  
Maximum Marks- 80

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## General Instructions:

1. All questions are compulsory.
  2. Marks are indicated against each question.
  3. Answer to questions carrying 1 mark may be one word or one sentence.
  4. Answer to questions carrying 3 marks may be from 50 words to 75 words.
  5. Answer to questions carrying 4 marks may be from 120 words to 140 words.
  6. Answer to questions carrying 6 marks may be 200 words.
  7. Attempt all parts of the question, together.
- 

1. On joining Foster Public School as a Physical Education teacher, Vikram realized that he did not have any freedom to introduce any changes in the sports activities being carried out in the school. Identify the incentive which was being ignored by the school.
  - a. Organisational Climate
  - b. Job security
  - c. Career advancement opportunities
  - d. Employee recognition program[1]
2. Tamanna has two kids – Yash & Yashika, studying in different schools. On comparing the two schools, Tamanna realises that the management of Yash's school is better in many ways, like the syllabus for each term is completed well in advance, the results for the weekly exams are given on time, the teachers seem to be more joyful and contented and so on. Identify the feature of management highlighted in the above-mentioned example. [1]
3. It is not always true that just because a plan has worked before it will work again. Identify the related limitation of planning.
  - a. Planning leads to rigidity
  - b. Planning reduces creativity
  - c. Planning may not work in a dynamic environment
  - d. Planning does not guarantee success[1]
4. Udaan Limited is a Bangalore based aviation company. The selection process for the post of ground staff in the company includes a very short interaction of about 5 minutes with the prospective candidates, in order to eliminate all those candidates who do not fulfil the minimum requirement of the job. Identify the step in the selection process being described in the above lines. [1]

5. Twinkle Stars' is a well-known resort for organising parties, especially for children. However, in past 6 months its popularity has reduced considerably as a new resort with better ambience and facilities has opened within its vicinity. Name the related feature of business environment which has influenced the business of 'Twinkle stars' adversely.
- Totality of external forces
  - Dynamic nature
  - Interrelatedness
  - Uncertainty
- [1]
6. Which principle of general management advocates that "Employee turnover should be minimised to maintain organisational efficiency"?
- Stability of Personnel
  - Remuneration of Employees
  - Equity
  - Espirit De Corps
- [1]
7. Identify the type of organisational structure which facilitates occupational specialisation.
- Functional Structure
  - Horizontal Structure
  - Network Structure
  - Divisional Structure
- [1]
8. The need for the controlling function is felt in
- Business Organisations
  - Political Organisations
  - Social Organisations
  - All of the above
9. What does the term 'first mover advantage' mean? [1]
10. In order to promote the sports shoes, Mansa limited is offering an opportunity to have dinner with Anushka Sharma and Virat Kohli to two of its customers whose names will be decided randomly through a draw. Besides the product itself, what is being marketed here by the company through this offer. [1]
11. Keeping in view the changes in the consumer demands and preferences 'Taste maker Bakery' has reduced the sugar and fat content in its products. This approach of business shows that management is....
- An intangible force
  - A group activity
  - A dynamic function
  - A multidimensional activity
- [1]
12. It is suitable for filling casual vacancies when work load is high or when certain number of permanent workers are absent.
- Direct Recruitment
  - Labour Contractors
  - Advertising on Television
  - Placement agencies and management consultants
- [1]

13. Which one of the following is a financial incentive?
- Promotion
  - Stock incentive
  - Job Security
  - Employee participation
14. Drishti joins a government school as a History teacher. She notices that one student in her class, Dipesh, has been coming late to the class for past one week. So she, tends to form an opinion about him that he is indisciplined child. As a result even when Dipesh is willing to share some meaningful information in the class, Drishti does not pay attention towards him. Identify the type of communication barrier being described in the above case. [1]
15. The term 'market' may be understood in which of the following contexts?
- Geographical area covered
  - Type of buyers
  - Quantity of goods transacted
  - All of the above
16. Shyam Sundar, a manager in a pharmaceutical Company, is really appreciative of fresh ideas given by his sub-ordinates. He frames policies only after consulting them. Which style of leadership is he following? [1]
17. In order to promote green initiative, Basak Limited has started using eco-friendly packaging containing plantable seeds. What is being marketed in the given case? [1]
18. What is departmentalisation ? [1]
19. Ranjan's business is being adversely affected due to the delay in delivery on account of poor weather conditions. Identify the marketing function which will be helpful to him in this regard.
- Physical Distribution
  - Standardisation & Grading
  - Transportation
  - Warehousing
- [1]
20. Yash runs a logistic company. The Tour Incharges of each trip in the company are expected to submit a report to the event manager on the completion of every trip. Identify the step in the Controlling process being described in the above lines.
- Setting of Standards
  - Measurement of actual performance
  - Taking corrective action
  - Analysing the deviation
- [1]
21. Sunidhi's grandmother is working as general manager in a film production company. Identify the level that she is working and briefly outline any three functions that she has to perform while working at this level.
22. Noori owns a garment factory in Gurugram. She has observed that frequent conflicts emerge between production and marketing department which adversely affects the sales of the company. When she shared this problem with her father, he told her that these conflicts arise due to the fact that each department is performing activities in isolation from others and barriers between departments are becoming more rigid.  
In the context of the above case :-



- a. Identify and explain the quality of management which is lacking because of which each department is performing activities in isolation from others.
- b. Also, explain any two features of the concept as identified in part (a) of the question. [1+2=3]
23. As per the directions issued by the Supreme Court, the government passed an order to ban the sale of tobacco products within the area of 200 m of all educational institutions as:
- a. Its consumption is injurious to health
- b. People are becoming more conscious about health and fitness. This indicates the government's attitude towards this business.
- Identify the business environment under three different dimensions by quoting from above paragraph. [3]
24. The supply chain of McDonald's is highly complex in India. It uses around 9000 hamburger buns, 3500 kg of tomatoes, 2000 kg of iceberg lettuce and more than 5000 slices of cheese on a daily basis. The whole practice begins at the grassroots with produce being delivered directly to suppliers by farmers. This produce is then processed and distributed to distribution centres and the quality of supplies is maintained by using customized multichambered temperature controlled trucks. These items are stored in rooms with zones at different temperatures and then dispatched to the restaurants depending on their requirements. Identify and explain any two types of plans being described in the above lines. [3]
25. Sayonara, is a famous food brand in India. Due to the allegation one of its products ready to eat masala oats was banned by the National Food Safety Regulator and directed the company to withdraw the product. From commanding 70% share of India's Oats market, Sayonara went to zero in just a month. Mr. Sikand Kapoor was appointed by the company to reinstate its lost image. The first thing Mr. Sikand Kapoor was to start communicating with all the stake holders – Regulators, media, consumers. He ensured that every question gets a satisfactory answer and then he pushed advertising.
- Name and explain the concept of promotion mix which helps the company to reinstate its lost good will. [4]
26. Mohit Gupta is working with Yellow Security Services Ltd. He is also recruiting security guards for the company. The company provides security services in Delhi and Noida at short notice to various companies. The guards are recruited on a temporary basis. The guards provided by this company are known for their honesty and punctuality. Mohit Gupta is well-known in his village for providing employment to unskilled people.
- a. Name the source of recruitment used by Yellow Security Services Ltd.
- b. State any one advantage of this source of recruitment
- c. Explain the source of recruitment, briefly.
- d. Identify the need of security guards which is being fulfilled by the company as per Maslow's need hierarchy. [1x4=4]
27. Anushka is doing a course in fashion designing from an institute of repute. As a part of the course, she has been asked to take on-the-job training in an export house for a fortnight in order to gain an insight about various practical aspects related to designing. Anushka, through the references from her senior, joins an export house owned by an upcoming designer, Nandita.
- In the context of the above case:
- a. Name and explain the type of training which Anushka has been asked to undertake.
- b. Explain briefly any one method for providing off-the-job training. [2+2=4]

28. Infocom has diversified itself into several product lines : Telecommunications, Engineering, Financial Services. Each subsidiary is self sufficient with their own administrative functions, propagating the belief that people can assume the responsibility for the effective implementation of their decisions. And should be given autonomy. This has reduced the need for direct supervision by superiors, has promoted flexibility, initiative and faster decision making. The orders of customers are never delayed , as a result of good policy decisions of top management.
- Identify and explain any two points of importance of the concept being discussed above.
  - Name and briefly explain a suitable framework for the company within which the managerial and operating task are to be performed. [2+2=4]
29. Mention and explain any four features of planning. [4]
30. Vikas was the Chief Operating Officer of Yalet Ltd., a company providing advanced software solutions to Indian Defence Services. They had been carrying on business successfully for the last twelve years and earning enough profits. But since last one year they realised that though they are getting big orders, which are being fulfilled in appropriate times, even then the revenues are decreasing. Vikas was not able to find out where the problem was. He started keeping a close check on the progress of activities as he could sense that something was wrong. He wanted to take some action before any major damage could be done to the business. Vikas appointed a Cyber Security Expert who monitored the company's processes and found out that the computer operator was deleting the entries from the computer and pocketing the revenues. He was caught , and, handed over to the police. This created an atmosphere of Order and Discipline in the Organisation and helped in minimising dishonest behaviour on the part of the employees.
- Identify & explain the function of Management highlighted in the above paragraph.
  - Explain any three importance of this function of management that may benefit the Organisation. [1+3=4]
31. Samita had been working as an assistant manager with Johnson Enterprises for the last ten years. She was very popular amongst her colleagues because of her commitment and dedication towards work. When a senior manager retired all her colleagues thought that now Samita would be promoted. But to everyone's surprise, the vacant post was filled by an outsider, Mrs. Rita. Samita felt demoralised and her performance started declining. She would absent herself often and could not meet her targets.
- Mrs. Rita was a good leader who would not only instruct her subordinates but would also guide and inspire them. She noticed Samita's behaviour and felt that her performance can be improved. She started involving Samita in the decision - making issues related to the Organisation and made her a part of high level joint - management committee. Samita was now punctual in office and her performance started improving.
- Identify and explain the function of management being performed by Mrs. Rita.
  - Name the element and explain of the above function of management which helped Rita improve Samita's behaviour.
  - State any four features of the element identified in (b) above. [1+1+4=6]
32. Study Buddy Pvt. Ltd., is a company dealing in stationery items. In order to establish standards of excellence and quality in materials and in the performance of men and machines, the company adheres to benchmarks during production. Moreover, its products are available in limited varieties,sizes,and dimensions thereby eliminating superfluous diversity of products.
- Identify the technique of scientific management which has been adopted by Study Buddy Pvt., Ltd.
  - Also explain one other technique of scientific management [3+3=6]

33. Explain what is meant by Divisional Structure and also mention for which type of Organisations, divisional structure will be suitable. What are the two advantages and two disadvantages of the Divisional Structure. [1+1+2+2=]
34. Nischay, after completing his masters in computer engineering decided to start his own business. He visited his uncle Mr. Jaiprakash who has been running a successful business in web designing. He shared with Nischay that the main reason for his success in the business lies in his approach of building a life time relation with his clients. Therefore, his business is not only restricted to designing web sites according to the specifications of the clients but also providing continuous online assistance to them and handling their grievances effectively and doing all this at a profit. He provides these services at competitive prices. Anybody getting interested in web solutions can contact him through his website. Moreover, whenever the market is sluggish he tries to create demand by offering short-term incentives to the buyers. Briefly explain the various elements of marketing mix being pursued by Mr. Jaiprakash by quoting lines from the para. [1.5X4=6]
-



**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

Class - XII  
Time - 3 Hours

Subject - Chemistry  
Maximum Marks- 70

**General instructions:**

1. Question paper comprises of four sections A,B,C and D.
2. There are 33 questions in the question paper and all questions are compulsory.
3. Section A : Q1 to Q 2 are case based question having 4 MCQs and reason- assertion type based on given passage each carrying 1 mark
4. Section A : Q 3 to Q 16 are MCQs , reason- assertion type questions carrying 1 Mark each.
5. Section B : Q 17 to Q 25 are short answer questions and carry 2marks each
6. Section C: Q 26 to Q 30 are short answer questions and carry 3 marks each
7. section D: Q 31 to Q 33 are long answer questions carrying 5 marks each
8. There are no overall choice however internal choices have been provided.
9. Use of calculator is not permitted.

**SECTION A**

1. Read the passage given below and answer the following questions: (1x4=4)
- According to collision theory of chemical. reactions, we know that the rate of a reaction depends upon collision frequency ( $z$ ) and fraction of the effective collisions. Obviously, we may think that the increase in rate of a reaction with temperature is brought about by either of the two or a combination of both factors. Catalysts, which do not appear in the balanced overall chemical equation, can also influence reaction rate. The rate law is experimentally determined and can be used to predict the relationship between the rate of a reaction and the concentrations of the reactants.

Answer the following MCQs by choosing the appropriate answer.

- (i) The activation energy for a chemical reaction depends upon:
  - (a) Temperature
  - (b) Nature of reacting species
  - (c) Collision frequency
  - (d) Concentration of reacting species.
- (ii) The rate of a reaction increases by increase of temperature because:
  - (a) Collision is increased
  - (b) Mechanism of a reaction is changed
  - (c) Fraction of molecules having energy equal or greater than threshold energy increases .
  - (d) Energy of product decreases.



- (iii) For a reaction the initial rate is given as:  $R_0 = k [A]_0^2 [B]_0$  By what factor, the initial rate of reaction will increase if initial concentration of A is 1.5 times and B is tripled?
- 4.5
  - 2.25
  - 6.75
  - 6.57
- (iv) When initial concentration of a reactant is doubled in a reaction its half life period is not affected. The order of reaction is :
- Zero order
  - Second order
  - First order
  - Fractional order.

2. Read the passage given below:

One of the main use of Galvanic cell is the generation of electrical energy. These cells are popularly known as batteries. The term battery is generally used for two or more Galvanic cells connected in series. Thus a battery is an arrangement of electrochemical cells used as an energy source. There are mainly two types of commercial cells we have. One is primary batteries or cells and other is secondary batteries or cells. (1x4=4)

A statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- Assertion and reason both are correct statements and reason is correct explanation for assertion.
  - Assertion and reason both are correct statements but reason is not the correct explanation for assertion.
  - Assertion is correct statement but reason is wrong statement
  - Assertion is wrong statement but reason is correct statement
- Assertion: A dry cell becomes dead after long time even if it is not in use.  
Reasons: The  $\text{NH}_4\text{Cl}$  slowly and gradually corrodes the zinc container.
  - Assertion: Increase in concentration. of copper half cell in Daniel cell increases the emf of the cell.  
Reasons: According to the Nernst equation :  
EMF of Danial cell =  $E_{cell}^0 + \frac{0.0591}{2} \log \left[ \frac{\text{Cu}^{2+}}{\text{Zn}^{2+}} \right]$
  - Assertion: When a lead-storage battery is charged, sulphuric acid is regenerated.  
Reason: Lead-storage battery is a type of secondary cell.
  - Assertion: In electrolysis, the quantity of electricity needed for depositing 1 mol of silver is different from that required for one mole of copper.  
Reason: The atomic weight of silver and Copper are different.

Following questions from 3 to 16 are multiple choice questions carrying 1 mark each. Choose the correct answer.

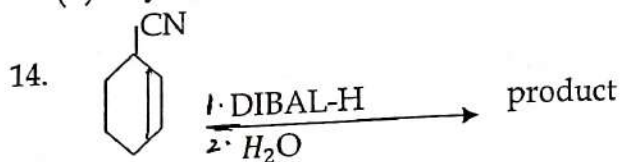
3. If molality of a dilute solution is doubled, the value of molal depression constant ( $k_f$ ) will be:
- Halved
  - Tripled
  - Unchanged
  - Doubled
4. Which of the following reaction will be the fastest under identical conditions?
- $C_2H_5OH + HI \rightarrow C_2H_5I + H_2O$
  - $C_2H_5OH + HCl \rightarrow C_2H_5Cl + H_2O$
  - $C_2H_5OH + HBr \rightarrow C_2H_5Br + H_2O$
  - $C_2H_5OH + HF \rightarrow C_2H_5F + H_2O$
5. Phenol can be distinguished from ethanol by reactions with the following except:
- Iodine and alkali (NaOH)
  - Ferric chloride (neutral)
  - Acetyl chloride
  - Bromine water
6. Acetaldehyde on warming with Fehling solution gives a red precipitate of:
- elemental copper
  - cuprous oxide
  - Cupric oxide
  - Silver
7. Which one of the following solutions will have highest osmotic pressure. (Assume that all salts are completely dissociated).
- 0.1M aluminum sulphate
  - 0.1M barium chloride
  - 0.1M sodium sulphate
  - 0.1M Sodium chloride
8. Which of the following has highest dipole moment?
- $CH_3Cl$
  - $CH_3F$
  - $CH_3Br$
  - $CH_3I$
9. Nitration of phenol with concentrated nitric acid gives:
- Ortho-nitrophenol
  - Para-nitrophenol
  - Picric acid
  - Mixture of ortho and paranitrophenols
10. Ketones can be prepared by
- Rosenmund Reduction
  - Etard Reaction
  - Cannizzaro Reaction
  - Friedel-Craft Reaction.



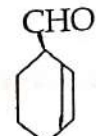
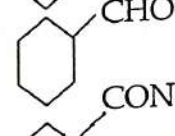
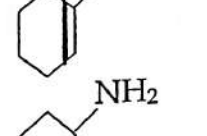
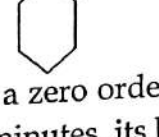
11. A solution of acetone in ethanol:
- shows a (+) ve deviation from Raoult's Law
  - behaves like an ideal solution.
  - obeys Raoult's Law completely
  - shows a (-)ve deviation from Raoult's Law.

12. The correct order of increasing order of boiling point of following 1-Bromo ethane, 1-bromopropane, 1-bromobutane, Bromo benzene.
- Bromo benzene < 1-bromobutane < 1-bromo propane < 1-bromo ethane.
  - 1-bromoethane < 1-bromopropane < 1-bromobutane < bromobenzene.
  - 1-Brmoethane < 1-bromopropane < bromobenzene < 1-bromobutane.
  - 1-bromobutane < 1-bromo propane < bromobenzene < 1-bromo ethane.

13. The heating of phenyl-methyl ether with HI produces:
- Iodobenzene
  - Phenol
  - Benzene
  - ethyl chloride.



The product is :

- 
- 
- 
- 

15. For a zero order reaction  $A + B \rightarrow C$ . Initial concentration of A is 0.1M. If [A] is 0.08M after 10 minutes, its half life period will be:-

- 50 minutes
- 25 minutes
- 75 minute
- 100 minutes

16. How much electricity in terms of Faraday will be required to produce 18g of aluminium from molten  $Al_2O_3$ ? (at. mass of Al=27, oxygen=16)

- 4.44 F
- 2.22 F
- 2 F
- 1 F

## SECTION B

17. Define cryoscopic constant and freezing point of a substance. [1+1]

18. (a) Why do different reactions proceed with different rates?  
 (b) Can a reaction have zero activation energy? Explain with the help of Arrhenius equation. [1+1]

OR

90% of a first order reaction was completed in 10 hours. When will 99.9% of the reaction complete? [2]

19. Complete the reaction:

(i) Isobutylene + HBr  $\rightarrow$  ??

(ii) Diphenyls are potential threat to environment. How are these produced from Aryl halides. (Give the reaction). [1+1]

20. Explain :

(i) Phenol is Stronger acid than alcohol. Why?

(ii) Cresol is less acidic than Phenol. Why? [1+1]


21. Write the reaction involved in the following naming reactions.

(i) Etard Reaction. [1+1]

(ii) Hell - Volhard Zelinsky Reaction.

22. Calculate the moles of ethyl alcohol in 4 litres of its 3 m solution, if the density of the solution is  $0.985 \text{ kg L}^{-1}$  ( Molar mass of ethyl alcohol =  $46 \text{ gmol}^{-1}$ ) (2 Marks)

23. Complete the following Reaction:

(a)  + HI  $\longrightarrow$  ?

(b)  $(\text{CH}_3)_3\text{C Br} + \text{KOH} \xrightarrow[\text{Heat}]{\text{Ethanol}}$  ?

24. (a) Write the structure of Phenyl acetaldehyde.?

(b) Benzoic acid does not undergo Friedel -Craft Reaction. Why? [1+1]

OR

Name the reagent only which can bring the following change.

(i) Benzophenone to Diphenyl methane

(ii) Phenyl benzoate to Benzaldehyde

25. (i) The technique of osmotic pressure for determination of molar mass of solute is particularly useful for biomolecules. Why?

(ii) To avoid painful condition bends, the tanks . used by Scuba divers are filled with air diluted with helium. Why is it done? and write approximate percentage of gases present in tank.



### SECTION C

26. For the cell,  $\text{Mg} \mid \text{Mg}^{2+} (0.30\text{M}) \parallel \text{Ag}^+ (0.0001\text{M}) \mid \text{Ag}$ . Calculate  $K_c$  (equilibrium constant) at  $25^\circ\text{C}$  and also maximum work that can be obtained by operating the cell. [3]  
 Given  $E^\circ (\text{Mg}^{2+}/\text{Mg}) = -2.37\text{V}$   
 $E^\circ (\text{Ag}^+/\text{Ag}) = 0.80\text{V}$

27. To 500 ml of  $\text{H}_2\text{O}$ ,  $3 \times 10^{-3}$  kg acetic acid added. If 22% of acetic acid is dissociated find the depression in freezing point?  
 Given ( $K_f$  for water  $= 1.86 \text{ k kg mol}^{-1}$ , density of  $\text{H}_2\text{O} = 1 \text{ g cm}^{-3}$ ) [3]

28. (a) State a condition under which a bimolecular reaction is kinetically first order reaction.  
 (b) What is the effect of adding a catalyst on (i) Gibbs energy of a reaction and (ii) Activation Energy of a reaction. [3]

29. Bring out the following conversions:

(i) Aniline to chlorobenzene. [3]

(ii) Tert.butyl bromide to isobutyl bromide

(iii) Benzyl alcohol to 2-phenylethanoic acid.

30. Describe the following with suitable examples

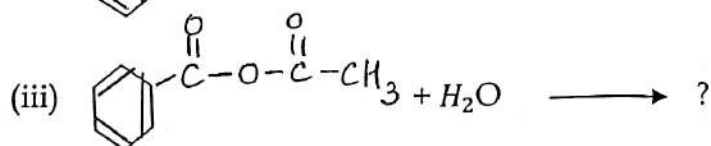
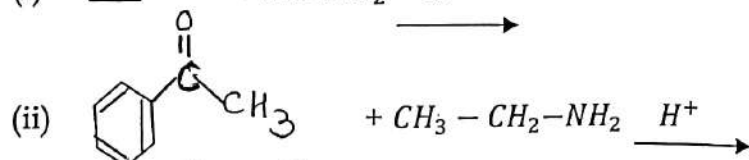
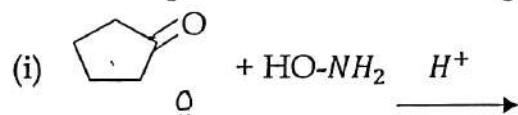
(a) Decarboxylation Reaction.

(b) Iodoform Test

(c) Tollen's Test. [1x3=3]

OR

Predict the product of the following reactions



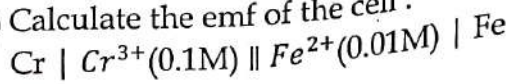
### SECTION- D

31. (a) In a plot of  $\Lambda_m$  against the square root of concentration ( $C^{\frac{1}{2}}$ ) for strong and weak electrolyte the value of limiting molar conducting of a weak electrolyte can not be obtained graphically. Suggest a way to obtain this value. Also state the related law if any.

(b) The electrical resistance of a column of 0.05M KOH solution of diameter 1cm and length 45.5cm is  $4.55 \times 10^3$  ohm, calculate its molar conductivity. [2+3]

OR  
 On dilution the molar conductivity of a weak electrolyte increases drastically while, that of strong electrolyte increases gradually. Explain.

(b) Calculate the emf of the cell.

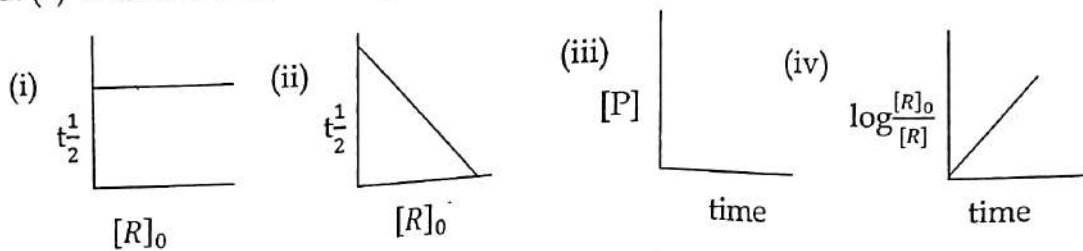


[2 + 3]

Given:  $E^\circ \text{Cr}^{3+} \mid \text{Cr} = -0.75\text{V}$   
 $E^\circ \text{Fe}^{2+} \mid \text{Fe} = -0.45\text{V}$

( $\log 2 = 0.3010$ ,  $\log 3 = 0.4771$ ,  $\log 4 = 0.6020$ )

32. (a) Which of the following graph is correct for a first order reaction and why?



[2 + 3]

(b) The rate constant of a reaction at 700 K and 760 K are  $0.011 \text{ M}^{-1} \text{ s}^{-1}$  and  $0.105 \text{ M}^{-1} \text{ s}^{-1}$  respectively. Calculate the value of Arrhenius parameters.

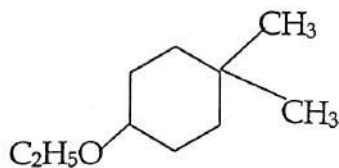
OR

(a) How is collision frequency and effective collisions are different. Explain.

(b) The rate of a particular reaction quadruples when the temperature changes from  $20^\circ\text{C}$  to  $40^\circ\text{C}$ . Calculate the energy of activation for such reaction assuming that it does not change with temperature.

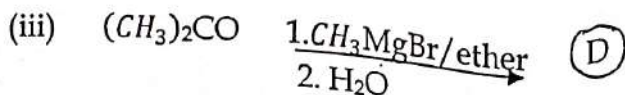
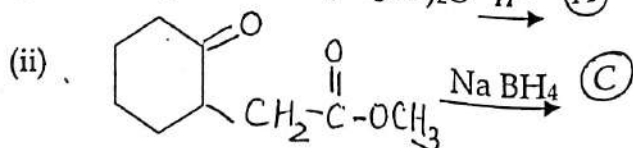
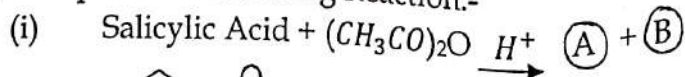
[2 + 3]

33. (a) Write IUPAC name of the following Compound.



[5]

(b) Complete the following Reaction:-



OR

- (a) Preparation of alcohol from alkene involves the electrophilic attack on alkene carbon atom. Explain its mechanism. [2+3]
- (b) Give Reason:-
- (i) In Kolbe reaction instead of phenol, phenoxide ion is treated with  $\text{CO}_2$ . Why?
  - (ii) Bond angle in alcohol is slightly less than tetrahedral angle whereas in ether bond angle is greater than tetrahedral bond angle. Why?
  - (iii) Di-tert. butyl ether cannot be prepared by Williamson Synthesis. Why?
-



# DELHI PUBLIC SCHOOL

## SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hours

Subject - Computer Science  
Maximum Marks-70

### General Instructions:-

- The question paper is divided into 4 sections-A,B,C and D.
- Section A, consists of 12 multiple choice questions. Attempt any 10. Each question carry 1 mark.
- Section B, consists of 12 questions. Each question carries 2 marks.
- Section C, consists of 8 questions. Each question carries 3 marks.
- Section D, consists of 3 questions. Each question carries 4 marks.

---

### SECTION-A (Multiple Choice questions) [10x1=10 Marks]

1. Which of the following is a DML command?  
(a) DROP  
(b) INSERT  
(c) ALTER  
(d) CREATE
2. Identify the valid declaration of T:  
T = {"Roll":123, "Name": "Hiya", "Class":12, "Subject" : "Computer Science"}  
(a) dictionary  
(b) string  
(c) tuple  
(d) list
3. Find the valid identifier from the following  
(a) Tot\$balance  
(b) TRUE  
(c) 4thdata  
(d) break
4. Suppose a tuple T is declared as T=(10,20,30) and a list L=["mon", "tue", "wed", "thu", "fri", "sat", "sun"], which of the following is incorrect ?  
(a) min(L)  
(b) L[2] = 40  
(c) T[3] = "thurs"  
(d) print( min(T))

5. What is the output of the functions shown below?

```
>>>min(max(False,-4,-6),4,9)
```

- (a) -6
- (b) -4
- (c) False
- (d) 9

6. `def interest (p,c,t=2,r=0.09):`

```
    return p*t*r
```

Consider the above defined function, which of the function call are legal.

- 1) `interest(p=1000,c=5)`
  - 2) `interest(r=0.05,5000,3)`
  - 3) `interest(500,t=2,r=0.05)`
  - 4) `interest(c=4,r=0.12,p=5000)`
- (a) 1,2 and 4
  - (b) 2 & 3
  - (c) 1 & 4
  - (d) 3 & 4

7. What will be the output of the following code?

```
x = 3
defmyfunc():
    global x
    x+=4
    print(x, end=' ')
print(x, end=' ')
myfunc()
print(x, end=' ')
```

- (a) 3 3 3
- (b) 3 5 7
- (c) 3 7 7
- (d) 7 7 7

8. What does `readlines()` method returns?

- (a) Str
- (b) a list of lines
- (c) list of single characters
- (d) list of integers

9. A programmer has confusion in understanding the behaviour of opening a file in “w” mode. Clear his/her confusion, by suggesting the correct option among the given below. The behaviour of “w” mode is

- (a) Opening fails if the file already exists already.
- (b) Opening fails if the file does not exist already.
- (c) Opening will be succeeded if file exists with data and keeps the data intact.
- (d) Opening will be succeeded, if the file exists replaces the contents, do not exist, creates a new file.

10. Which of the following statements is true with respect to the files in Python?
- File can be opened with a file handle using open method without any arguments
  - File can be opened with a file handle using open method with one argument to read the file
  - File can be opened with a file handle using open method with one argument to write the file
  - File can be opened with a file handle using open method with one argument to append the file
11. Number of records in a table is called \_\_\_\_\_
- Cardinality
  - Data inconsistency
  - Degree
  - Record Number
12. Suppose content of 'DATfile.txt' is  
**The Education of a women is the education of a family.**  
 What will be the output of the following code?
- ```
myfile=open("DATfile.txt")
X=myfile.read()
Y=X.count('of')
print(y)
myfile.close()
```
- 2
  - 3
  - 4
  - 5

**SECTION-B [12X2=24 Marks]**

13. Give the output given by the following code fragments.
- `y=str(123)`  
`print(y*3)`
  - `5<10 and 10<5 or 3<18 and not 8<18`
14. What do you mean by Primary key and Candidate keys in a table? Explain with the help of suitable example from a table containing some meaningful data.
15. Consider the following table PREPAID. Write MySQL commands for the statements given below.

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

- Delete a column name Model.
- Delete a customer record where connection type is BSNL.

16. What are the differences between the WHERE clause and HAVING clause?
17. Write the output of the queries (a) to (d) based on the table, Mobile given below:

| M_ID  | M-Company | M_NAME   | M_PRICE | M_Mf_Date  |
|-------|-----------|----------|---------|------------|
| MB001 | Samsung   | Galaxy   | 15000   | 12-02-2013 |
| MB003 | Nokia     | N1100    | 12500   | 15-04-2011 |
| MB004 | Micromax  | Unite 3  | 5500    | 17-10-2016 |
| MB005 | Sony      | XperiaM  | 25000   | 20-11-2017 |
| MB006 | Oppo      | SelfieEx | 18500   | 21-08-2010 |

- (a) Select Max(M\_Mf\_Date), Min(M\_Mf\_Date) from Mobile;
- (b) Select \* from Mobile WHERE M\_PRICE>15000 AND Like "S%";
- (c) Select M\_Mf\_Date from Mobile WHERE M\_Name IN ("Galaxy","Unite3");
- (d) Select AVG(M\_Price) from Mobile;
18. Differentiate between Text file and Binary file.
19. Write a program to accept five numbers from the user and write in a file "number.txt" in separate lines.
20. Write a program in Python to copy the alternate lines from file "data.txt" to "story.txt"
21. What do you mean by default parameters? Explain with the help of suitable example.
22. Write definition of a method ODDSum(NUMBERS) to add those values in the list of NUMBERS, which are odd.

Sample Input Data of the List

NUMBERS=[20,40,10,5,12,11]

OUTPUT is 16

23. Write the output of the following code:

```
v = 5
def d(N):
    global v
    v = 25
    if N%9==0:
        v = v * N
    else:
        v = v ** N
    print(v, end="#")
d(2)
print(v)
```

24. What is the difference between a local variable and global variable? Also, give a suitable Python code to illustrate both.

### SECTION-C

[8X3=24 Marks]

25. Write a program to read content from a file "number.txt" and display the sum of numbers present in file.  
for example : if the file contains the following data

Total marks in exam is 25

My roll number is 15

My Address is 207, XYZ

**Output :**

22

26. Write a method cnt\_M() in python to read lines from a text file 'MYNOTES.TXT', and display those lines, which are starting with the alphabet 'M'.

If the 'MYNOTES.TXT' contents are as follows:

My first book was

Me and My Family.

It gave me chance to be

Known to the world.

The output of the function should be:

Count of lines starting with Meis: 2

27. Write a function RevText() to read a text file " Story.txt " and Print only word starting with 'I' in reverse order . Example: If value in text file is: INDIA IS MY COUNTRY  
Output will be: AIDNI SI MY COUNTRY.

28. Find the output and also trace the flow of execution for the following program.

```
def increment(n):  
    n.append([49]):  
    return n[0], n[1], n[2], n[3]  
L=[23,35,47]  
m1, m2, m3, m4=increment(L)  
print(L)  
print(m1, m2, m3, m4)  
print(L[3]==m4)
```

29. Write the outputs of the SQL queries (i) to (iii) based on relations EMP and DESIG given below:

| Table: EMP |               |        |     |            |             |
|------------|---------------|--------|-----|------------|-------------|
| E_ID       | Name          | Gender | Age | DOJ        | Designation |
| 1          | Om Prakash    | M      | 35  | 10/11/2009 | Manager     |
| 2          | Jai Kishan    | M      | 32  | 12/05/2013 | Accountant  |
| 3          | Shreya Sharma | F      | 30  | 05/02/2015 | Clerk       |
| 4          | RakeshMinhas  | M      | 40  | 15/05/2007 | Manager     |
| 5          | Himani Singh  | F      | 33  | 19/09/2010 | Clerk       |

| Table: DESIG |      |         |
|--------------|------|---------|
| Salary       | E_ID | DEPT_ID |
| 45000        | 1    | D101    |
| 35000        | 2    | D102    |
| 45000        | 4    | D101    |



- i) SELECT Designation, count(\*) FROM EMP GROUP BY Designation;  
 ii) SELECT AVG(Age) FROM EMP;  
 iii) SELECT EMP.Name, EMP.Designation,DESIG.Salary FROM EMP, DESIG WHERE  
 EMP.E\_ID = DESIG.E\_ID AND EMP.Age>35;
30. Write a function that takes two numbers and returns the number that has minimum one's digit. [For example, if numbers passed are 491 and 278, then the function will return 491 because it has got minimum one's digit out of two given numbers (491's 1 is <278's 8)].
31. Write the output of the following code fragment:

```
deffunc(b):
    global x
    print('Global x=', x)
    y = x + b
    x = 7
    z = x - b
    print('Local x = ',x)
    print('y = ',y)
    print('z = ',z)
x=5
func(10)
```

32. Write a menu-driven python program using different functions for the following menu:
1. Check no. is Palindrome or not
  2. Check no. is Armstrong or not
  3. Exit

### SECTION-D

**[3X4=12 Marks]**

33. Write queries (a) to (d) based on the tables EMPLOYEE and DEPARTMENT given below:

**Table: EMPLOYEE**

| EMPID | NAME   | DOB           | DEPTID | DESIG       | SALARY |
|-------|--------|---------------|--------|-------------|--------|
| 120   | Alisha | 23-Jan-1978   | D001   | Manager     | 75000  |
| 123   | Mamta  | 04-April-1992 | D002   | AO          | 59000  |
| 129   | Navjot | 12-Jul-1971   | D003   | Supervisor  | 40000  |
| 130   | Jimmy  | 30-Dec-1980   | D004   | Sales Rep   |        |
| 131   | Faiz   | 06-Apr-1984   | D001   | Dep Manager | 65000  |

**Table : DEPARTMENT**

| DEPTID | DEPTNAME   | FLOORNO |
|--------|------------|---------|
| D001   | Personal   | 4       |
| D002   | Admin      | 10      |
| D003   | Production | 1       |
| D004   | Sales      | 3       |

- (a) To display the average salary of all employees, department wise.
- (b) To display the name and respective department name of each employee whose salary is more than 50000.
- (c) To display the names of employees whose salary is not known, in alphabetical order.
- (d) To display DEPTID from the table **EMPLOYEE** without repetition.

34. Design a Menu driven program to display the following in the file "textfile.txt".

- 1. Number of Vowels
- 2. Number of Words
- 3. Frequency of alphabet 'a'
- 4. Frequency of word 'the'

35. A Book store is considering to maintain their inventory using SQL to store the data. As a database administrator, shashank has decided that:

Name of database - BOOK STORE

Name of table - BOOK

The attribute of BOOK are as follows:

Code - alphanumeric of size 10

Bname - character of size 30

Cust\_code - float

Price - numeric

Type - character of size 25

| <b>Table : BOOK</b> |                          |                  |              |             |
|---------------------|--------------------------|------------------|--------------|-------------|
| <b>Code</b>         | <b>Bname</b>             | <b>Cust_code</b> | <b>Price</b> | <b>Type</b> |
| F101                | The priest               | C083             | 315          | Fiction     |
| L102                | German easy              | C312             | 410          | Literature  |
| C103                | Tarzan in the lost world | C113             | 100          | Comic       |
| F102                | Untold story             | C083             | 215          | Fiction     |
| C102                | War heroes               | C113             | 150          | Comic       |
| F103                | Poison Garden            | C083             | 200          | Fiction     |

- (i) Write the degree and cardinality of Table BOOK.
- (ii) Insert the following data into the attributes Code, BName, Cust\_code and Price.  
Code = 'C105'    Bname = "City heroes"    Cust\_code= 'C113' and Price=75
- (iii) Rahul want to remove all the records from the table BOOK. Which command will he use from the following:
  - (a) DROP TABLE BOOK;
  - (b) DELETE FROM BOOK;
  - (c) DROP DATABASE BOOK STORE;
  - (d) DELETE BOOKS FROM BOOK;
- (iv) Now Rahul wants to display the structure of the table BOOK, i.e, name of the attributes and their respective data types that he has used in the table. Write the query to display the same.



**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

Class - XII  
Time - 3 Hours

Subject - Economics  
Maximum Marks- 80

**General instructions:**

- i) *All question in both section are compulsory.*
- ii) *Question no. 1-10 and 18-27 are multiple choice questions carrying 1 marks each.*
- iii) *Question no. 11-12 and 28-29 are short-answer questions carrying 3 marks each. Answer to them should normally not exceed 60 words each.*
- iv) *Question no.13-15 and 30-32 are also short-answer questions carrying 4 marks each. Answer to them should normally not exceed 70 words each.*
- v) *Question no. 16-17 and 33- 34 are long-answer questions carrying 6 marks each. Answer to them should normally not exceed 100 words each.*
- vi) *Answer should be brief and to the point and the above word limits should be adhered to as far as possible.*

**SECTION -A**

1. Which of the following is not a 'factor payment'? [1]
  - a) Free uniform to defence personnel
  - b) Salaries to member of parliament
  - c) Rent paid to the owner of a building
  - d) Scholarship given to students
2. If GVAmP is Rs. 7000 crores, Intermediate consumption is Rs. 3000 and the ratio of sales to change in stock is 4:1, then sales will be:- [1]
  - a) 6000
  - b) 3200
  - c) 10000
  - d) 8000
3. When autonomous consumption =75, MPC= 0.6 and Y=1500, consumption will be: [1]
  - a) 900
  - b) 975
  - c) 1050
  - d) none of these
4. Which of the following statements is correct about money supply? [1]
  - a) It includes cash reserve of banks
  - b) It is flow variable
  - c) It refers to stock of money held by public at a point of time
  - d) It refers to stock of money held by public over a period of time
5. If the total deposits created by commercial banks is Rs. 12000 crores and legal reserve requirement is 25%, then the amount of initial deposits will be:- [1]
  - a) 4000
  - b) 3000
  - c) 1000
  - d) 10000

6. **Read the following statement—Assertion (A) and Reason (R). choose one of the correct alternatives given below:** [1]  
**Assertion (A):** money multiplier is the process by which commercial banks create credit.  
**Reason (R) :** money creation by commercial banks raises the national income.  
**Alternatives**  
a) Both Assertion (A) and reason (R ) are true and reason R is the correct explanation of A  
b) Both Assertion (A) and reason (R ) are true and reason R is not the correct explanation of A  
c) Assertion (A) is true and Reason (R) is false  
d) Assertion (A) is false and Reason (R) is true
7. Lockdown compounded the situation of \_\_\_\_\_ (voluntary/involuntary) unemployment. [1]  
8. What is linear consumption function? [1]

OR

When slope of consumption curve remain constant the shape of APC will be

- a) Increasing  
b) decreasing  
c) constant  
d) none
9. Fiscal deficit is an estimate of \_\_\_\_\_ (borrowing/losses incurred) by the government. [1]  
10. Tax receipts are revenue receipts because: [1]  
a) These do not lead to decreases in assets of the government.  
b) These creates additional liabilities of the government.  
c) These are unilateral payments  
d) These may be direct or indirect
11. Explain the relation between credit creation and cash reserve ratio using an example. [3]

OR

Explain the role of ‘reverse repo rate’ to control credit.

12. “Fiscal deficit is necessarily inflationary in nature”. Do you agree? Support your answer with valid reason. [3]  
13. Keynesian theory tells us that inflationary gap emerges only after full employment is reached. But, in India we often find high rate of inflation along with high rate of unemployment. How do you explain this paradox?

OR

What is effective demand principle in Keynesian theory of employment? Discuss using a schedule and diagram. [4]

14. How will following treated while estimating national income of India? Give reasons. [4]  
a) Value of bonus shares received by shareholders of a company.  
b) Interest received on loan given to a foreign company in India.  
c) Capital gains to Indian residents from sale of shares of a foreign company.  
d) Payment of interest on loan taken by an employee from the employer.
15. Calculate Revenue deficit, Fiscal deficit and primary deficit from the following:- [4]

| S.No. | Particulars         | Amount(in crores) |
|-------|---------------------|-------------------|
| i     | Tax revenue         | 1000              |
| ii    | Revenue expenditure | 3821              |
| iii   | Non-tax revenue     | 2000              |
| iv    | Recovery of loans   | 135               |
| v     | Capital expenditure | 574               |
| vi    | diinvestment        | 100               |
| vii   | Interest payment    | 1013              |

16. Outline the steps required to be taken in deriving consumption curve from saving curve. Use diagram. Also explain in brief the adjustment mechanism when ex-ante Aggregate Demand is less than Aggregate supply. [6]
17. Calculate (a) GDP<sub>mp</sub> by income method, and (b) national income by expenditure method: [6]

| items                                    | Value |
|------------------------------------------|-------|
| Compensation of employees                | 240   |
| Exports                                  | 50    |
| Mixed income                             | 280   |
| Imports                                  | 60    |
| Interest on national debt                | 10    |
| Private final consumption expenditure    | 510   |
| Gross fixed capital formation            | 130   |
| Consumption of fixed capital             | 80    |
| Subsidies                                | 20    |
| Government final consumption expenditure | 70    |
| Inventory investment                     | 40    |
| Indirect tax                             | 90    |
| Net factor income from ROW               | (-)20 |
| Rent, interest and profit                | 100   |

OR

Given the following data, calculate the values of Gross Domestic Capital formation and Operating Surplus.

| S.NO. | PARTICULARS                              | AMOUNT(in crores) |
|-------|------------------------------------------|-------------------|
| 1     | National Income                          | 22100             |
| 2     | Wages and Salaries                       | 12,000            |
| 3.    | Private Final Consumption expenditure    | 7200              |
| 4     | Net Indirect Taxes                       | 700               |
| 5     | Gross Domestic Capital formation         | ?                 |
| 6.    | depreciation                             | 500               |
| 7.    | Government final consumption expenditure | 6100              |
| 8     | Mixed income self employed               | 4800              |
| 9     | Operating surplus                        | ?                 |
| 10.   | Net exports                              | 3400              |
| 11    | Rent                                     | 1200              |
| 12    | Net factor income from abroad            | (-) 150           |

### SECTION B

18. India entered the \_\_\_\_\_ Stage of Demographic transition after 1921. [1]
- Fourth
  - Second
  - First
  - Third
19. Suez canal was opened for transport in: [1]
- 1850
  - 1853
  - 1869
  - 1901

20. What is meant by modernization in the planning objective? [1]  
OR  
What was the primary objective of land reforms in India?
21. **Read the following statements—Assertion (A) and Reason (R). choose one of the correct alternatives given below:** [1]  
**Assertion (A):** Even after Industrial Development took kick start after independence, India was still the net exporter of primary products.  
**Reason (R) :** Public Sector was insufficient and corrupt in the process of industrial development.  
**Alternatives**  
a) Both Assertion (A) and reason (R ) are true and reason R is the correct explanation of A  
b) Both Assertion (A) and reason (R ) are true and reason R is not the correct explanation of A  
c) Assertion (A) is true and Reason (R) is false  
d) Assertion (A) is false and Reason (R) is true
22. **Read the following statements—Assertion (A) and Reason (R). choose one of the correct alternatives given below:** [1]  
**Assertion (A):** With New economic policy 1991, growth process in India was not inclusive.  
**Reason (R) :** There has been limited growth in agriculture and industrial sector of India since independence.  
**Alternatives**  
a) Both Assertion (A) and reason (R ) are true and reason R is the correct explanation of A  
b) Both Assertion (A) and reason (R ) are true and reason R is not the correct explanation of A  
c) Assertion (A) is true and Reason (R) is false  
d) Assertion (A) is false and Reason (R) is true
23. Which of the following is not an advantage of GST? [1]  
a) Development of a common national market  
b) Boost of foreign investment  
c) Expansion of tax base  
d) Differences in prices throughout the country
24. In the year \_\_\_\_\_, the Indian Government made education free and compulsory for all children between 6-14 years. [1]  
a) 2001  
b) 2009  
c) 2003  
d) 2007
25. Define Human Capital formation. [1]
26. Which is one of the apex body to take care of the Rural financing system of country. [1]  
a) RBI  
b) NABARD  
c) ICICI  
d) IDBI
27. Which of the following is not an advantage of organic farming? [1]  
a) Cheap inputs  
b) Attractive returns on investment  
c) Greater possibilities for Imports  
d) High nutritional value

28. Give a quantitative appraisal of India's demographic profile during the colonial period. [3]

OR

The period of British Rule has been called as an economic drain despite a favorable balance of trade. Why?

29. Why direct participation of state was considered essential in Industrial development process in period 1950-1990. What policy measures adopted by the Government for rapid Industrial development. [3]

30. Establish the need for migration and on-job training for human capital formation. [4]

31. What do you mean by agriculture marketing? Discuss the various measures taken by the government to improve agriculture marketing. [4]

OR

How does organic farming promotes sustainable development? Identify the limitations of organic farming.

32. Explain the financial sector reforms introduced under the policy of liberalisation. [4]

33. "All that glitters is not Gold". There is a negative side to the story of New economic policy as well. Justify the given statement by giving arguments in support of your answer. [6]

34. Discuss the need for rural credit. Explain the steps taken by the government in developing the rural credit. What are its limitations. [6]

OR

Human capital formation is a process which gets affected by presence of various problems. Discuss problems related to future prospects of human capital formation.

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# DELHI PUBLIC SCHOOL

## SAIL TOWNSHIP, RANCHI

### HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hours

Subject - English  
Maximum Marks-80

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#### General Instructions:

- *Read all the questions carefully.*
  - *All questions are compulsory to be attempted.*
  - *The question paper is divided into three sections: A, B and C.*
  - *Separate instructions are given with each section and question, wherever necessary. Read these instructions very carefully and follow them.*
  - *Do not exceed the prescribed word limit while answering the questions.*
- 

#### 1. Read the passage given below:

1. Each day is a chance to invest in life; a chance to renew yourself, to shed yesterday's skin, to unburden yourself to get rid of yesterday's hurt. Be glad of life each day as it gives you a chance to work, love and play, and to look at the sun. And then when the sun sets, don't cry-the tears will make you miss the beauty of the stars.
2. Life moves on and if you don't stop and look at the wonders already present in your life, you will miss life altogether.
3. Think of big thoughts but relish the small joys life offers you each day. Maybe it's as simple as smiling at someone. For, that could be the last day of life-for you or for the other person.
4. A small genuine act from you will cost you nothing but it could mean everything to somebody that day. Life is a succession of moments. Live each moment. Life has no romance without risk. All actions carry some amount of risk, may be less or more, but the element of risk is always present.
5. If there is no wind, row. Make things happen rather than let things happen. One can give nothing whatsoever without giving oneself, risking oneself. The most important thing in life is not what you get but what you give.
6. Once a preacher called at the home of a very poor family. When he came out, he found one son admiring his new car, so the preacher explained that he had received it as a gift from his brother.
7. Most lads would say, "I wish I had a brother like that." But this one said, "Mister, I wish I could be a brother like that."
8. If you are not enjoying this journey, for sure you won't enjoy the destination. It will become a moment to dread, not a moment you can actually look forward to. It's not what happens that determines our future, but what you do determines it.
9. Conquer the mind and you conquer the world. Looking back strains your neck muscles. Similarly, living in the past strains your life. Don't dwell in the past. Have faith in yourself and you will have faith in others. Fulfil your destiny. Remember, no one can make you unhappy without your consent.
10. The way you cope with life, is what makes the difference. Even peace of mind is not the absence of conflict but the ability to cope with it. You have to reach out to other people. That will teach you to forgive people and also forgive yourself.
11. Forgiveness means letting go of the past. Compassion is about stepping outside yourself. A kind compassionate act is often its own reward. Live your life without complaining, just like the tree.



**1.1 On the basis of your reading of the passage, answer the following questions by choosing the best of the given choices. (1x10=10)**

- (a) Why should we be glad of each day?  
(i) Because we are more mature each new day.  
(ii) Because we have more energy.  
(iii) Because we are free of yesterday.  
(iv) Because we can live life, work and enjoy each new day.

(b) What is meant by make things happen?

- (i) Take initiative, take risks, start things.  
(ii) If you are in a boat, you must row.  
(iii) Give whatever you wish to give.  
(iv) Do not try to get things.

(c) A small genuine act (para 4) could mean.....

- (i) an act of kindness and love  
(ii) a heroic act  
(iii) a good piece of acting  
(iv) a short scene in a play

(d) Succession in para 4 means.....

- (i) achievement  
(ii) happiness  
(iii) inheritance  
(iv) series

1.2 Answer the following questions briefly:

- (a) Why we should not dwell in the past?  
(b) When the sun sets, do not shed tears because you will miss the ..... of the stars.  
(c) Explain :Life has no romance without risk.  
(d) You should live your life always complaining, just like the tree. [True/False]

1.3(a) Find a word which means the same as fate (para 9).

(b) Find a word which means the same as to push a boat using oars (para 5).

**2. Read the passage and choose the correct answer in the questions given below:**

1. While the Centre plans to offer JEE (Mains) in regional languages too, results of NEET-UG 2020 reveal that of the nearly 7.7 lakh candidates who qualified, over 1.3 lakh took the test in 10 Indian languages, with 25,701 such students among the top 1 lakh.
2. The healthy percentage of successful students in various languages shows that domain knowledge is not limited to those fluent in English. However, such students often face a major language hurdle as technical lessons are imparted in English. They should be given free English tuitions to enable them to keep pace with the course. Efforts can also be made to publish technical books in other Indian languages.
3. Apart from English, NEET-UG is offered in 10 Indian languages- Hindi, Assamese, Bengali, Gujarati, Kannada, Marathi, Odia, Tamil, Telugu and Urdu. Experts say if these exams had not been conducted in regional languages, many candidates would have struggled to qualify as they may have not been comfortable in English.

| AFTER ENG & HINDI, GUJARATI MOST PREFERRED                      |               |               |          |           |              |           |            |            |           |           |          |
|-----------------------------------------------------------------|---------------|---------------|----------|-----------|--------------|-----------|------------|------------|-----------|-----------|----------|
| Number of candidates qualified till 80,000 rank (language-wise) |               |               |          |           |              |           |            |            |           |           |          |
| Rank-Range                                                      | English       | Hindi         | Telugu   | Assamese  | Gujarati     | Marathi   | Tamil      | Bengali    | Kannada   | Odiya     | Urdu     |
| 1-20,000                                                        | 17,155        | 2,445         | 0        | 0         | 246          | 3         | 50         | 95         | 1         | 6         | 0        |
| 20,001-50,000                                                   | 25,051        | 4,099         | 0        | 1         | 543          | 5         | 92         | 199        | 4         | 7         | 0        |
| 50,001-80,000                                                   | 25,250        | 3,757         | 4        | 11        | 640          | 15        | 91         | 221        | 5         | 5         | 1        |
| <b>Total</b>                                                    | <b>67,456</b> | <b>10,301</b> | <b>4</b> | <b>12</b> | <b>1,429</b> | <b>23</b> | <b>233</b> | <b>515</b> | <b>10</b> | <b>18</b> | <b>1</b> |

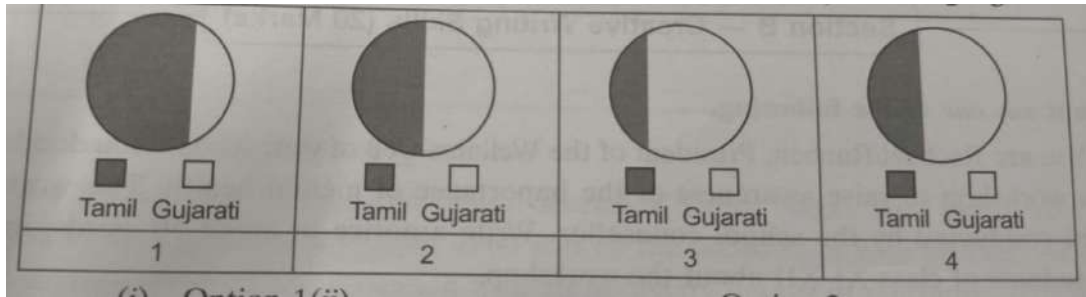
| Number of candidates registered for NEET-UG 2020 (language-wise) |          |           |                                 |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------|----------|-----------|---------------------------------|--|--|--|--|--|--|--|--|
| Language                                                         | Appeared | Qualified | Qualification % wrt to appeared |  |  |  |  |  |  |  |  |
| English                                                          | 10.8 L   | 6.4 L     | 58.9                            |  |  |  |  |  |  |  |  |
| Hindi                                                            | 1.8 L    | 86,871    | 48.7                            |  |  |  |  |  |  |  |  |
| Assamese                                                         | 3,644    | 652       | 17.9                            |  |  |  |  |  |  |  |  |
| Bengali                                                          | 29,335   | 12,734    | 43.4                            |  |  |  |  |  |  |  |  |
| Gujarati                                                         | 47,579   | 24,575    | 51.7                            |  |  |  |  |  |  |  |  |
| Kannada                                                          | 642      | 260       | 40.5                            |  |  |  |  |  |  |  |  |
| Marathi                                                          | 5,029    | 863       | 17.2                            |  |  |  |  |  |  |  |  |
| Odia                                                             | 587      | 237       | 36                              |  |  |  |  |  |  |  |  |
| Tamil                                                            | 12,648   | 5,039     | 39.2                            |  |  |  |  |  |  |  |  |
| Telugu                                                           | 1,191    | 329       | 27.6                            |  |  |  |  |  |  |  |  |
| Urdu                                                             | 1,721    | 129       | 7.5                             |  |  |  |  |  |  |  |  |

4. Welcoming the plans to offer JEE(Main) in regional languages, experts said this would help candidates who study in vernacular languages at the senior secondary level. Educationist and CBSE ex-chief Ashok Ganguly said since admission to engineering colleges is based on one exam, students in vernacular medium shouldn't be deprived of a level-playing field.
5. "But these students will definitely find it difficult to appear in JEE(Advanced). It would be better to fix some state quota for colleges like NITs and their exam be held separately with option to appear in regional languages but for national quota, the medium should only be English. In any case, a student from vernacular medium will find it difficult to continue in IIT. So JEE(Advanced) must be continued in English medium."

2.1 On the basis of your understanding of the above passage, answer the following questions by choosing the most appropriate option. (1x10=10 marks)

- (a) Among regional languages, the highest number of qualifying candidates are from.....
- Hindi language
  - Bengali language
  - Gujarati language
  - Tamil language
- (b) Based on your understanding of the passage, choose the statement which is not correct.
- NEET-UG 2020 exam was conducted in ten regional languages including Marathi, Tamil, Telugu and Urdu
  - NEET-UG 2020 exam was conducted in ten regional languages including Marathi, Odia, English and Assamese
  - NEET-UG 2020 exam was conducted in ten regional languages including Kannada, Marathi, Odia and Tamil.
  - NEET-UG 2020 exam was conducted in ten regional languages including Hindi, Assamese, Bengali and Gujarati.
- (c) The word 'deprive' used in para 4 means the same as.....
- thrive
  - strive
  - deny
  - drive
- (d) Based on the graphical chart given in the passage, choose the option that correctly states the number of appeared candidates in Tamil and Gujarati language

- (i) Option 1
- (ii) Option 2
- (iii) Option 3
- (iv) Option 4



(e) The maximum number of candidates qualified till 50,000 rank in any two languages belongs to.....

- (i) English and Hindi
- (ii) English and Gujarati
- (iii) Hindi and Bengali
- (iv) English and Bengali

(f) Pick the option that lists TRUE statements according to the given percentage of qualified candidates.

- (1) After English and Hindi, Gujarati is the most preferred language.
- (2) After Marathi and Tamil, Urdu is the most preferred language.
- (3) After Gujarati and Bengali, Tamil is the most preferred languages.
- (4) After Marathi, Odia and Telegu are the least preferred languages.

- (i) 1 and 3
- (ii) and 4
- (iii) 1 and 2
- (iv) 1 and 4

(g) To encourage students' participation in NEET-UG through regional languages, it is suggested that.....

- (1) English should be abolished in NEET as a medium
- (2) Efforts should be made to publish technical books in regional languages.
- (3) The regional candidates should be trained separately for entrance exam
- (4) The regional candidates should be given free English tuitions

- (i) 1 and 3
- (ii) and 4
- (iii) 1 and 2
- (iv) 1 and 4

(h) Most of the regional candidates struggle to qualify NEET as they are not comfortable in English. Pick out the word/phrase that means the opposite of 'not comfortable' .....

- (i) At ease
- (ii) inefficient
- (iii) melodious
- (iv) dexterous

2.2 (i) Find a word from the passage which means

(a) 'divulge'.(para1)

(b) communicated (para2)

**Section - B**  
**(Creative Writing Skill: 20Marks)**

3. Attempt any one of the following.

(A) You are Rachael/ Rueben, President of the Wellness Cell of your school. You decide to organise a workshop to raise awareness of the importance of mental health. This workshop would be conducted by the school counsellor. Write a notice in about 50 words, informing the students of class XI-XII about the workshop. (5marks)

OR

(B) You are Raghav/ Reema, Secretary of the cultural society of your school. Your society is organising a dance drama "Gandhi-a Sage". Write a notice in about 50 words for the school notice board, informing the students about it with all necessary details.

4. (A) You are Radhika Sharma, D/o Dinesh Sharma of Lajpat Nagar, New Delhi. Your father wants you to draft a formal invitation to be sent on the occasion of your brother, Akshat Sharma's marriage. Prepare the invitation with all necessary details in not more than 50 words. (5Marks)

OR

(B) Draft an invitation to be sent to all the parents on the eve of your School's Annual Day to be held in the month of December 2022. Give necessary details in not more than 50 words.

5. (A) A 72 year old Municipal Councillor of your area expired last Friday and as she had desired, her body was donated to Army Medical College. It would be a second life for some person's receiving some vital organs retrieved from her body. Write a letter to the Editor of "The Indian Times", New Delhi, highlighting the **importance of donation of eyes and other organs to persons in need**. You are Namit/Namita, 125, Soha Road (120-150 words). (5 Marks)

OR

(B) You are Gaurav/ Gunjan residing at 323, Kale Sarai, Delhi. You are keen to join a highly reputable pharma company as a chartered accountant. You have come across the following advertisement in a leading newspaper and decide to apply for it. Write a letter in 120-150 words with a biodata, responding to the given advertisement.

|                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Required a qualified CA with 3 year experience, 25-28 year, well-versed in financial matter, fluency in English necessary, pleasant personality, good salary. Send resume within a week to Manager, CIPLA, Connaught Place, New Delhi. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

6. (A) You are Abhishek/ Anubha studying in Plato Public School, New Delhi. While commuting for your school everyday you find many of your school boys and girls taking free lift from the passing cars, which you think is dangerous. Write an article in about 120-150 words on 'The Evils of Hitch-hiking' for publication in your school magazine. (5marks)

OR

- (B) You saw a stout man riding a cycle- rickshaw in the market. When the rickshaw puller took a sharp turn, it overturned and both of them fell down. The man started beating the poor rickshaw puller. You along with some of the shopkeepers intervened and sorted the matter out. Write a report in 120-150 words on the incident. You are Rohan/Rohini.

## SECTION-C

### Literature (40 Marks)

Read the extracts given below and attempt any one of the two given by answering the questions that follow. (1x6=6 marks)

7. (A) Rich with a sprinkling of fair musk-rose blooms;

And such too is the grandeur of the dooms

We have imagined for the mighty dead;

All lovely tales that we have heard or read;

An endless fountain of immortal drink,

Pouring unto us from the heaven's brink.

**(a) Pick the quote that matches best with-**

“And such too is the grandeur of the dooms we have imagined for the mighty dead”

- (i) In the night of death ,hope sees a star,and listening love can hear the rustle of a wing.
- (ii) When a great man dies,for years the light he leaves behind him ,lies on the paths of men.
- (iii) Endings are not always bad,most of the times they are just beginnings in disguise.
- (iv) Cowards die many times before their death; the valiant never taste of death but once.

**(b)Pick out the option that uses the same poetic device as the 'mighty dead'.**

- (i) Sleepless nights
- (ii) Deafening silence
- (iii) Glaring lights
- (iv) Time is a thief

**(c) "Grandeur of the dooms " does not mean the same as :**

- (i) the glory and magnificence that the dead are entitled to on the Dooms Day following their death
- (ii) glorified stories celebrating the life of our powerful ancestors on Dooms Day
- (iii) the magnificence that we imagine for our mighty dead forefathers on the Dooms Day
- (iv) an account of the fact that the great people died for giving unhappiness to the rest of the world.

**(d) Pick the option that refers to what an "endless fountain immortal drink suggests"**

- (1) Inspirational deeds of great men
  - (2) A ceaseless series of dreams
  - (3) An infinite source of strength
  - (4) An elixir of life for upliftment of the soul
  - (5) A source of delight
  - (6) A boundless gift of love
- (i) (1), (4) and (5)
  - (ii) (2), (3) and (5)
  - (iii) (1), (2) and (6)
  - (iv) (2), (4) and (6)

**(e) The deeds of great men are like an endless \_\_\_\_\_ of immortal drink.**

**(f) We imagine ourselves in the place of dead people ( True/False)**

**OR**

(B) What I want should not be  
Confused with total inactivity  
Life is what it is all about;  
I want no truck with death  
If we were not so single-minded  
about keeping our lives moving  
and for once could do nothing,  
perhaps a huge silence  
might interrupt this sadness  
of never understanding ourselves with Death

**(a) The poet's intention in the first line is to**

- (i) give warning to the readers
- (ii) give right direction to the readers
- (iii) give choice to the readers
- (iv) give a clarification to the readers

**(b) Select the option that best explains the stand of the poet in the expression: " I want no truck with death."**

- (i) He advises people to escape death
- (ii) He asserts that death is inevitable
- (iii) He assures that he does not advocate death
- (iv) He expresses his desire not to die

**(c) Select the option that aptly describes the tone of the poet in the expression:**

**"If we were not so single minded".**

- (i) Regretful
- (ii) critical
- (iii) encouraging
- (iv) friendly

**(d) According to the poet, who is to blame for the condition of threatening ourselves with death?**

- (i) Stressful life
- (ii) Keeping Quiet
- (iii) Lack of Understanding
- (iv) State of confusion

**(e) The tone of the poet in the expression**

**"perhaps a huge silence**

**Might interrupt this sadness" is**

- (i) unsure yet optimistic
- (ii) sure and confident
- (iii) poetic and melodramatic
- (iv) hopeful but not confident

**(f) Death is inevitable and the poet wants no alliance with it. Who is the poet advising to have no truck with death?**

- (i) Pablo Miguel
- (ii) Pablo Paolo
- (iii) Pablo Juan
- (iv) Pablo Neruda

**8. Read the extracts given below and attempt any one by answering the questions that follow.**

(1x4=4marks)

(A) They saw when they came toward him that indeed it was so. The sand on one side of him had already a stain of red soaking through. "He is wounded," Sadao exclaimed. He made haste to the man, who lay motionless, his face in the sand. An old cap stuck to his head soaked with sea water. He was in wet rags of garments. Sadao stopped, Hana at his side, and turned the man's head. They saw the faces head. They saw the face. "A white man!" Hana whispered.

(a) Pick out the correct option to describe Hana's reaction when she saw the man.

- (i) queer and fearful
- (ii) shocked and afraid
- (iii) free and happy
- (iv) casual and comfortable

(b) The man's condition was alarming because.....

- (i) he was in wet rags
- (ii) he was bleeding profusely
- (iii) he was critical but safe
- (iv) he was very tired

(c) Pick out the correct option that shows the relationship between Hana and Sadao. They are.....

- (i) cousins
- (ii) relatives
- (iii) wife and husband
- (iv) friends and companions for lifetime

(d) The word that means the same as 'motionless' is.....

- (i) alive
- (ii) dead
- (iii) faint
- (iv) still



OR

(B) To make sure, I walked over to a newsboy and glanced at the stack of papers at his feet. It was *The World*; and *The World* hasn't been published for years. The lead story said something about President Cleveland. I've found that front page since, in the Public Library files, and it was printed June 11, 1894.

I turned towards the ticket windows knowing that here- on the level at Grand Central- I could buy tickets that would take Louisa and me anywhere in the United States we wanted to go.

- (a) What struck the narrator that he wanted to make sure?
- (i) That he was a changed man.
  - (ii) That he had travelled back in time.
  - (iii) That his family was now safe.
  - (iv) That he could take decisions by himself.
- (b) 'The World' was a .....
- (i) journal
  - (ii) magazine
  - (iii) novel
  - (iv) newspaper
- (c) Do you think the narrator had been successfully able to find the ..... level?
- (i) first
  - (ii) third
  - (iii) lower
  - (iv) second
- (d) How did the narrator confirm that he had travelled back to the year 1894?
- (i) Everything was of old style
  - (ii) 'The World' newspaper was dated June 11, 1894
  - (iii) The locomotive belonged to an old company
  - (iv) all of the above

9. Read the extracts given below and attempt any one by answering the questions that follow.

(6x1=6marks)

(A) Thus, piece by piece, he built a swimmer. And when he had perfected each piece, he put them together into an integrated whole. In April he said, "Now you can swim. Dive off and swim the length of the pool, crawl stroke." I did. The instructor was finished. But I was not finished. I still wondered if I would be terror-stricken when I was alone in the pool. I tried it.

- (a) 'The instructor was finished' means he.....
- (i) had nothing new to teach him
  - (ii) couldn't complete the training
  - (iii) wasn't satisfied with the author's progress
  - (iv) was satisfied with the swimming skills of the author
- (b) 'But I was not finished' means he.....
- (i) wanted to learn more from the instructor
  - (ii) still felt a touch of terror at times while swimming
  - (iii) wasn't satisfied with the training
  - (iv) disliked the instructor
- (c) What was his next plan to get rid of his fear completely?
- (i) He hired another instructor.
  - (ii) He hired him again after a gap of two months.
  - (iii) He practised swimming extensively in big lakes and even went up the Tieton to Conrod Meadows, etc.
  - (iv) He decided to write down a story about his experiences.
- (d) Pick out the word that means the same as 'piece by piece'.
- (i) gradually
  - (ii) nicely
  - (iii) adversely
  - (iv) vehemently
- (e) Who is the author of this extract?
- (f) In the line given below:
- "and when he had perfected each piece he put them together, "- 'he' has been used for....."

**OR**

- (B) He wired a full report to the Viceroy. Morning found the town of Motihari black with peasants. They did not know Gandhi's record in South Africa. They had merely heard a Mahatma who wanted to help them was in trouble with the authorities. Their spontaneous demonstration, in thousands, around the courthouse was the beginning of their liberation from fear of the British. The officials felt powerless without Gandhi's cooperation. He helped them regulate the crowd. He was polite and friendly.

- (a) The authorities had asked Gandhi.....
  - (i) to submit a written explanation
  - (ii) not to help the peasants
  - (iii) to maintain law and order
  - (iv) to leave Motihari immediately
- (b) The large gathering of the peasants was a proof that.....
  - (i) their fear of the British rule began to recede
  - (ii) they had a large population in the area
  - (iii) they were angry and violent
  - (iv) they wanted to solve the issue on their own
- (c) Due to gathering of such a heavy crowd, the authorities.....
  - (i) imposed section 144 in the town
  - (ii) were shocked and powerless
  - (iii) arrested a large number of people
  - (iv) sent back Gandhi
- (d) Find out a word from the extract that means 'freedom'.
  - (i) record
  - (ii) merely
  - (iii) liberation
  - (iv) authorities
- (e) The antonym of 'spontaneous' is deliberate.....( True/ False)
- (f) Gandhi was in trouble with the authorities because he opposed the.....

10. Attempt **any five out of six questions given below in 40-50 words each.** (2x5=10marks)

- (a) "What a thunderclap these words were to me!" Which were the words that shocked and surprised the narrator?
- (b) How did Saheb get a pair of shoes? Was he happy with them?
- (c) What is the central idea of the poem 'My Mother At Sixty Six'?
- (d) Why did Gandhi tell the court that he was involved in a 'conflict of duties'?
- (e) "This handicap stayed with me as the years rolled by." How did it affect his pursuits for his pleasure? (Deep Water )
- (f) What were the peddler's feelings as night fell in the woods?

11. Attempt any two of the three questions given below in 40-50 words each. (2x2=4marks)
- (a) What happened to the narrator's psychiatrist friend Sam Weiner? What do you deduce from it?
  - (b) What was the objective of the 'Students on Ice' program?
  - (c) On the seventh day, after the American soldier was found by Dr Sadao, two things happened. Why did Hana feel scared of the second?

12. Attempt any one of the following questions in 120-150 words. (5x1=5marks)

(A) Throw light on the character of M. Hamel as presented in the story, 'The Last Lesson'.

OR

(B) Proximity to beautiful things can lead man to everlasting happiness. Discuss with reference to the poem 'A Thing of Beauty'.

13. Attempt any one of the following questions in 120-150 words. (5x1=5marks)

(A) You recently heard a doctor mentioning about an organisation named 'Doctors without Borders' in an interview. The organization serves people in remote corners of the world. The words of the doctor impressed you and you feel that doctors should exhibit the qualities of dedication, compassion, and professional ethics. Justify and express your opinion in context of the character of Dr. Sadao.

OR

(B) How does the Tiger King symbolize some of the present day leaders who exhibit the base quality of self-absorption and overweening desire for personal glory?







# DELHI PUBLIC SCHOOL

## SAIL TOWNSHIP, RANCHI

### HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hour

Subject - Entrepreneurship  
Maximum Marks- 70

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#### General Instructions:

1. Attempt all parts of a question together.
  2. Answers to short answer questions must be brief and to the point.
- 

1. One of the keys to business success is to anticipate what the market will want or need. Since it is not possible for an entrepreneur to see into the future, there is one best way. The best way will help the entrepreneur to understand the market and produce goods or services accordingly.  
Identify the concept stated in the above lines.  
(a) Trend Spotting  
(b) Idea Germination  
(c) Problem Identification  
(d) None of these [1]
2. Vaibhav was working with Rishav, a new entrepreneur, as a Production Manager. For smooth and coordinated flow of work, he had to pay attention towards various elements. To ensure predetermined quality of products, he had to compare the performance with established standards. Identify the element being discussed above which is related to one of the components of a 'Business Plan'.  
(a) Routing  
(b) Scheduling  
(c) Dispatching  
(d) Inspection [1]
3. Bhoomika started a pottery unit employing differently abled people to make and sell sculptors made of clay. She also made sure that the material she used is easily decomposable. During the months of September and October she increased the scale of production as the festival of Diwali was round the corner. Identify the component of business environment at a macro level that is reflected in the above situation.  
(a) Ecological  
(b) Economic  
(c) Technological  
(d) None of these [1]
4. The 'Marketing strategy' and 'Action plan' comprise of decision pertaining to which of the following  
(a) Potential hazards present in the competitive environment  
(b) Product, Price, Place, Promotion  
(c) Customer's characteristics  
(d) Qualifying goals of the organisation [1]

5. Which of the following is not a component of product mix?
  - (a) Branding
  - (b) Labelling
  - (c) Packaging
  - (d) Promotion

[1]
6. Raghav sells an air purifier for Rs. 2,100. If the purchase price of the product is 80% of its selling price, the profit earned by Raghav is \_\_\_\_
  - (a) Rs. 1,700
  - (b) Rs. 1,680
  - (c) Rs. 420
  - (d) Rs. 400

[1]
7. B & H is a leading advertising firm. They recruit new graduates through college placements. During an interview, a student was asked to list the four rules for planning any advertising activity, he replied that the following is required: Aim, Target, Desire, Competitors. Is he correct? Justify your answer.
 

[1]
8. Carrying cost refers to the total cost of holding inventory which includes interest, space cost, insurance etc. (State True/False)
 

[1]
9. A summary of the projected assets, liabilities and net worth of the entrepreneur is depicted through pro forma balance sheet. (State True/False)
 

[1]
10. Procurement of “right person, at right job, at right time” is the objective of \_\_\_\_\_ plan. (Fill in the Blank)
 

[1]
11. It is always advisable to mention in the business plan, the socio-economic benefits expected to acquire from the proposed investment. Identify which of the following is not an economic and social variable.
  - (a) Employment generation
  - (b) Import substitution
  - (c) Land and Building
  - (d) Ancillarisation

[1]
12. \_\_\_\_ strategy consists of long term plans or decisions to spread in the world about the product or service to customers, stakeholders and the broader public. (Fill in the blank)
 

[1]
13. The \_\_\_\_ refers to the ingredients or the tools or the variables which the marketer mixes in order to interact with a particular market. (Fill in the blank)
 

[1]
14. In which of the following stages of creativity, entrepreneur comes out with viable plan to give practical shape by collecting raw-material, arranging funds, policy-making for the implementation of idea.
  - (a) Preparation
  - (b) Incubation
  - (c) Illumination
  - (d) Verification

[1]
15. Which of the following considerations related to market is/are to be followed by an entrepreneur, while selecting a suitable channel of distribution?
  - (a) Number of buyers
  - (b) Types of buyers
  - (c) Buying habits



- (d) All the above [1]
16. State True/False for the following statement:  
'A financial plan is a projection of key financial data about the potential investment commitment needed for the new venture.' [1]
17. \_\_\_\_\_ process of entrepreneurship involves the translation of a useful idea into an application which has commercial value.(Fill in the blank) [1]
18. Gross Profit per unit is calculated by using the formula \_\_\_\_\_.  
(Fill in the blank) [1]
19. Ashok is engaged in the production of ready- made garments using cotton cloth. Identify the business activity in which Ashok is involved and also state the utility created by him. [1]
20. \_\_\_\_\_ can be defined as a measure of what products are sold.  
(Fill in the blank) [1]
21. State True/False for the following statement:  
'Sales mix is the proportion in which two or more products are sold.' [1]
22. What is meant by Break – even point? Why is it important for an entrepreneur to calculate Break- even point? Give any two reasons. [2]
23. Differentiate between a 'Logo' and a 'Tag line'. [2]
24. The first step in the creative process is "Idea germination." Explain the next step that follows. [2]
25. What does total cost include? Explain. [2]
26. Quick Rasoi is a fast food chain selling Indian food items like Kathi, Roti, Samosa, Idli, Dhoklas Etc,. Now they want to sell Kulfi in their outlets. Kulfi has been an item in their menu earlier also but was withdrawn because of higher price as compared to the price of established brands. Therefore, this time they decided to initially price the Kulfi at cost. It was done with the objective of increasing market share.  
Management of Quick Rasoi is of the view that once their Kulfi is established in the market they will increase the price to a level that will help them in earning reasonable profit on their product.  
Identify and explain the pricing strategies adopted by Quick Rasoi earlier and at present. [2]
27. Explain creative efforts as an idea field and also list the ways in which these ideas can be generated. [3]
28. A Courier-Service Company 'Speed-Express' had a varying number of Customers during five weeks. The information regarding the number of customers and the average weekly billing is presented in the following Table. What is the 'Unit of Sale' and 'Unit – Price' in this case? If the cost of goods sold or variable cost is 60% of the sale price, calculate the Unit Cost and the 'Gross-Margin' per unit of sale. [3]

| WEEK  | NO. OF CUSTOMERS | AVERAGE AMOUNT BILLED ( Per Customer) RS. |
|-------|------------------|-------------------------------------------|
| 1     | 20               | 200                                       |
| 2     | 34               | 170                                       |
| 3     | 26               | 142                                       |
| 4     | 44               | 262                                       |
| 5     | 36               | 350                                       |
| TOTAL | 160              | 1,124                                     |

29. 'Flavouright Foods Ltd.' started a business of making nachos (corn chips) in three variants: Classic Cheese, Toasted Corn and Tangy Tomato. To start with, all the three variants will be sold in a standard packing of 100 grams each, the selling price would differ due to the ingredients used. Fixed Costs are Rs. 38,000.  
Selling Price and variable costs per unit are as follows:

| Particulars   | Classic Cheese | Toasted Corn | Tangy Tomato |
|---------------|----------------|--------------|--------------|
| Selling Price | Rs. 80         | Rs. 45       | Rs. 60       |
| Variable Cost | Rs.40          | Rs. 15       | Rs. 20       |
| Packets sold  | 100            | 40           | 60           |

From the above information calculate :

Weighted contribution margin per unit.

Break-even point (Total)

[3]

30. Explain the first four steps in the process of Idea and opportunity assessment briefly.

[4]

31. (a)What do you mean by production plan?

(b) What will be the effect on Production Plan in the following situations:

(i) When there is no manufacturing

(ii) When there is partial manufacturing

(iii) When there is complete manufacturing

[4]

32. You have planned to start manufacturing a new brand of chocolates aiming at teenagers.

Your company 'Delicious' has already been manufacturing and selling biscuits since 2010. The success of biscuits has encouraged you to move into the chocolate industry.

Keeping in mind the steps involved in preparation of the marketing plan draft marketing plan explaining the first four steps briefly.

[4]

33. Kiano Mobile Solutions (KMS) has been a leader in the mobile handset industry for years.

After technological advancement, many players entered the market and started to take up the sales share. KMS failed to understand the changing trends in the mobile phone and lost its market share majority whereas Hanhung Mobitech could understand the sensitivity to the environment factors which is crucial for an entrepreneur.

How has the understanding of environment helped Hanhung Mobitech?

Explain.

[6]

34. Explain any six characteristics of Partnership form of organisation briefly.

[6]

35. Source based question ( Source Economic Times, January31,2020)

'Memes have emerged as a lucrative profession for its creators.

Last week, when Zomato acquired UberEats, competitors took no time to engage with users through this new-age content marketing tool, which had become an instant hit when it began life on social media a few years ago.

However generating memes on Instagram, Tik Tok and facebook is now starting to become an integral part of marketing budgets for brands that want stay relevant and topical online. These brands are using popular meme pages such as Laughing colours, Confused Atma and Sarcastic Indian across social media.

A consumer brand spends Rs. 1,000 - Rs. 50,000 on a meme. A page with a million likes charges Rs. 1,000 - Rs. 1,500 for visibility on facebook and around Rs. 3,000 for Instagram, creators said. And, depending on the category of influencers, Tik Tok charges between Rs. 5,000 - Rs. 3 Lakhs.

Earlier, meme pages used to make money mainly through Google advertisements, videos or cross promotions. Today, they rack up anywhere between Rs. 10 Lakhs and Rs. 4 - 6 crores in yearly turnover.

Some brands that have been active with meme marketing include One Plus, True caller, Dream 11, L.G and Big Bazar, apart from big players in the e-commerce and soft-drinks space.

Brands use memes for promotions, taking a dig at competition, and for product launches. The demand for memes as a marketing tool increases ahead of festive seasons and occasions like Cricket World Cup or Indian Premier League matches. Usually, a brand engages with meme creators for two-three memes a week.'

In context of the above article, answer the following questions:

Identify and explain the component of Product Mix discussed above that makes the products/services distinct from each other.

Explain various types of the same identified in (a) above with suitable examples.

[6]



# DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 2 Hours

Subject - Fine Art Painting / Graphics  
Maximum Marks- 30

## Section First

*Multiple Choice Questions : chose the correct answer.*

*(1x6 = 6)*

- (1) What is Nimat- Nama?
  - A. Book of biography
  - B. Book of pictography
  - C. Book of mythology
  - D. Book of delicacies
- (2) Who was known as the Raphael of the East?
  - A. Miskin
  - B. Ustad Mansoor
  - C. Bihzad
  - D. Tabrez
- (3) It is a continuous narrative which means that various episodes have been shown in a single scene .
  - A. Maru - Ragini
  - B. Chaugan players
  - C. Krishna with Gopis
  - D. Bharat Meets Rama at Chitrakut .
- (4) There is a divine expression of peace and contentment on their faces in a humble setting.
  - A. Krishna lifting Mount Govardhana
  - B. Kabir and Raidas
  - C. Falcon on a Bird rest
  - D. Marriage procession of Dara shikoh
- (5) Who amongst the followings one of the most significant scholars (art historian) of the Pahari School of painting?
  - A. B N Goswamy
  - B. A K Swami
  - C. E. B Havell
  - D. C G Sivaramamurti
- (6) Who is the founder of Bengal school of Art.
  - A. Abaninndranath Tagore & GaganendraNath Tagore
  - B. Abaninndranath Tagore & E. B Havell
  - C. GaganendraNath Tagore & E. B Havell
  - D. Rabindranath Tagore & Abaninndranath Tagore

## Section Second

*Answer to be written for each is about 30 words. (Any Three)*

*(2x3 =6)*

- (a) Evaluate the subject matter of Hazarat Nizamuddin Auliya and Amir Khusro.
- (b) Write about 'Delineation of Raga-Raginis in the Rajasthan miniature paintings'.
- (c) Life depiction & Royal splendor of birds and animals in the Mughal miniature paintings.  
Explain with example
- (d) Why Kangra sub school is important in Pahari miniature paintings.

## Section Third

*Answer to be written for each is about 100 words.(Any Two)*

*(3x2 =6)*

- (a) Evaluate the following statements with the help of a painting included in your course study:  
'The depiction of nature compliments the romance between the lovers in Pahari miniatures'.
- (b) Write a short note on the depiction of women in Rajasthani miniatures with reference to any two paintings.
- (c) Write about the compositional arrangement and aesthetic - grandeur of the following miniature painting:-'Chand Bibi playing polo (Chaugan)'.

## Section Fourth

*Answer to be written for each is about 200 words. (Any one)*

*(6x1 =6)*

- (a) Write an essay on the origin and development of the Mughal or Deccan School of Miniature Painting
- (b) Describe the evolution of the Indian National Flag and the symbolic significance of its forms and colours.

## Section Fifth

*Answer to be written for each is about 300 words.(Any one)*

*(6x1 =6)*

- (a) How did the artists contributed in the freedom struggle?
  - (b) Write a note on the Pahari School of miniature painting. How was Rajasthani style of painting different from the Mughal Paintings?
-



**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

**Class - XII**  
**Time - 1 Hour**

**Subject - General Studies**  
**Maximum Marks-50**

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**PART A**

**I. SELECT THE BEST OPTION**

**(1X10=10)**

1. Maria Ressa and Dmitry Muratov received the Nobel Peace Prize for
  - (A) their efforts to safeguard freedom of expression
  - (B) their efforts to safeguard girl child
  - (C) their efforts to achieve peace and international cooperation
  - (D) their initiative to resolve border conflict.
2. Which of the following Indian cities is situated at the banks of Lake Pichola ?
  - (A) Udaipur
  - (B) Ahmedabad
  - (C) Agra
  - (D) Kurnool
3. Who is the top contender of Rishi Sunak for UK PM election 2022 ?
  - (A) Liz Truss
  - (B) General Suella
  - (C) Tom Tugendhat
  - (D) Kemi Badenoch
4. Who among the following took charge as Vice Chief of Army Staff in February 2021 ?
  - (A) Bipin Rawat
  - (B) Chandi Prasad Mohanty
  - (C) Raj Shukla
  - (D) SK Saini
5. Where does the river Brahmaputra originate?
  - (A) Glaciers of Mapchachungo
  - (B) Chemayungdung glacier of the Kailash range
  - (C) Milam glacier in the Nepal Himalayas
  - (D) Garhwal hills near Gairsain

6. Margomkali, a ritual folk art form is from the state of  
(A) Assam  
(B) Punjab  
(C) Nagaland  
(D) Kerala
7. Who among the following wrote 'The Light of Asia: The Poem that Defined the Buddha' that will narrate the phenomenal poem "The Light of Asia"?  
(A) Shashi Tharoor  
(B) Chetan Bhagat  
(C) Jairam Ramesh  
(D) Salman Rushdie
8. Select the option in which the numbers are related in the same way as are the numbers of the following set -  
(9,21,124)  
(A) (5, 16, 220)  
(B) (14, 58, 112)  
(C) (11, 64, 131)  
(D) (17, 37, 220)
9. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follows from the statement-
- Statements:
- All camels are bats.
- No bat is a parrot.
- Some camels are lions.
- Conclusions:
- I. Some bats are lions.
- II. No parrot is a camel.
- III. No parrot is a lion
- (A) Both conclusions I and III follow  
(B) Only conclusion II follows  
(C) Only conclusion I follows  
(D) Both conclusions I and II follow

10. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series

TALT, YAGT, YFGO, DFBO,DKBJ,?

- (A) BDEP
- (B) IKWJ
- (C) DPBE
- (D) IJKW

### PART B

**II. Answer the following questions in 120-130 words (Any 3)**

(3X10=30 marks)

1. How does, 'Start-up India, and Stand -up India', stimulate young entrepreneurs ?
2. Do you agree that environment protection and development can go hand in hand? Give reasons for your answer.
3. Is cashless economy a boon or a bane?
4. Why petrol is getting costlier in India ?
5. Write about the two sides of Aadhar.(Advantage and the disadvantage )

### PART C

**III. Answer the following question in 120 to 130 words**

(1X10=10marks)

"In my case, the hackers didn't get far off enough to actually take any of my money. But my poor grandmother wasn't so fortunate as \$11,000 was stolen from her bank account before she even realized what was going on."

What to do if your bank account is hacked ? How to avoid it ?

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**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

**Class - XII**  
**Time - 3 Hours**

**Subject - History**  
**Maximum Marks-80**

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**General Instructions**

1. Answer all the questions. Some questions have internal Choice. Marks are indicated against each question. This Question paper contains six sections.
  2. Section A: Question numbers 1 to 16 are objective type questions carrying 1Mark and should be answered in one word or one sentence each (Attempt any 15)
  3. Section B: Question number 17 to 19 are case based questions having multiple choice questions. Each question has 4 sub -parts. Attempt any three sub parts from each question.
  4. Section C: Answer to questions carrying 3 Marks (question number 20-23) should not exceed 100 words each
  5. Section D: Answer to questions carrying 8 marks (question number 24-26) should not exceed 350 words each.
  6. Section E: Question numbers 27-29 are source based questions carrying 5marks each
  7. Section F :Question number 30 is a Map question that includes the identification and location of significant test items. Attach the map with the answer book.
- 

**Section A**

[1X15=15]

1. Who was the most famous king of Vijayanagara Empire?
2. Name two fruits which came with the Europeans from the new world to the subcontinent in the 16<sup>th</sup>/17<sup>th</sup> century
3. Some colossal statues of kings of a particular dynasty have been found out to be installed at a Mat near Madhura. Similarly some were found from Afghanistan as well. Some historians feel that this kings had considered themselves as God like and adopted the titles such as Devaputra. Who were these rulers?
4. Who wrote the Rihla?
5. Who was the grand father of Ashoka the Great?
6. By profession Bernier was a -----
7. Name the different types of peasants of 16<sup>th</sup> century, India
8. Arrange the following dynasties of Vijaya nagara Empire chronologically
  - A. Saluva
  - B. Tuluva
  - C. Aravidu
  - D. Sangama
9. Al biruni came to India with \_\_\_\_\_

10. Differentiate the context of Vinaya Pitaka and Sutta Pitaka
11. Who was the first woman to be ordained as a *bhikkhuni*?
12. According to Jain tradition what does the word 'Theerdhankara' mean?
13. Who is known as the father of Indian archaeology?
14. Who were the founders of Vijayanagara Empire?
15. Which archeologist understood the necessity to study the Harappan sites stratigraphically?
16. What are the Jatakas

### Section B

17. Read the following excerpt carefully and answer any three questions. [1X3=3]

A different genre of Sufi poetry was composed in and around the town of Bijapur, Karnataka. These were short poems in the Dakhani (a variant of Urdu) attributed to chisty Sufis who lived in this region during the 17<sup>th</sup> and 18<sup>th</sup> centuries. These poems were probably sung by women while performing household chores like grinding grain and spinning. Other compositions were in the form of Lori Nama or lullabies and shadi namah or wedding songs it is likely that the surface of this region where inspired by the pre-existing bhakti tradition of the Kannada vachanas of the lingayats and the Marathi abangas of the sants of pandhapur. It is through this medium that Islam gradually gained a place in the villages of the Deccan .

**i. Choose the correct option.**

**Codes**

Assertion (A) Sufi Saints conversed as well as wrote their poetries in local languages

Reason( R ): They wanted to connect with masses and spread the gospel of Sufism among them

- 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 not true
- D. A is not true But R is true

**ii. What was the reason behind penetration of Islam into the villages of the deccan?**

- A. Sufi Saints developed a new variant of poem to propagate their messages.
- B. Coercive tactics and forced to conversion by the rulers of Bijapur.
- C. Sufi Saints amalgamated earlier traditions prevalent in those areas for preservice of Sufi ideas.
- D. Both A and C

**iii. What was the main theme and characters of Padmavat written by Malik Muhammad Jayasi ?**

- A. Love, Padmini and Ratan singh
- B. Courage, Padmini and Ratan singh
- C. Justice, Baba Farid and Sheik Nizamuddin Auliya
- D. None of the above

iv. What is Sama

- A. Annual meeting of Sufi Saints
- B. Pilgrimage to khanques
- C. Recitation of songs poetries etc at the Khanquah of Sufi Saints
- D. All of the above .

18. Read the following excerpt carefully and answer any three questions. [1X3=3]

**The nature of the self.**

The self of mine within the heart is smaller than barley or mustard or Millet or the kernel of a cedar of Millet. This self of mine within the heart is greater than the earth, greater than the intermediate space, greater than heaven, greater than these World.

The true sacrifice this one the wind that blows, this is surely a sacrifice... While moving, it sanctify's all this, therefore it is indeed a sacrifice.

Answer any of the three of the following

i. What is the source of this verse?

- A. Upanishad
- B. Veda
- C. Mahabharata
- D. Ramayana

ii. According to the verse what is surely a sacrifice?

- A. The wind
- B. Human beings
- C. Salt
- D. River

iii. Why the inner self is compared to a seed and then to the space?

- A. Because we are great
- B. Because the soul has no limit
- C. Because the soul can be big and small at the same time
- D. none of the above

iv. What is the central idea given in the Upanishad?

- A. That the soul is huge and minute at the same time
- B. The wind can be a purifier
- C. The sea can hide the inner self
- D. The world is made by God and we are very small in front of God

19. Read the following excerpt carefully and answer any three questions [1X3=3]

When the king Devanampiya Piyadassi had been ruling for eight years , the country of the Kalingas Present day coastal Orissa was conquered by him . 150,000 men were deported, 100,000 were killed, and many more died.

After that now that the country of the Kalinga has been taken, Devanam piyadassi devoted to an intense study of Dhamma, to love the Dhamma and to instructing the people in Dhamma. This is the repentance of Devanampiya on account of his conquest of the country of the Kalingas .This is considered very painful and horrible by the king that while

one is conquering an unconquered country slaughter death and deportation of people take place there...

**Choose the correct option**

- (i) Assertion (A) :the king Devanampiya Piyadassi instigated by the horrors of Kalinga war,  
Reason ( R ): He was highly anguished by the death and destruction caused by the Kalinga war.  
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 not true  
D. A is not true But R is true
- (ii) Who is Devanampiya  
A. Chandra Gupta I  
B. Asoka  
C. Samudra Gupta  
D. None of these
- (iii) What is Dhamma  
A. Buddhist Philosophy  
B. Hindu Philosophy  
C. Jaina Philosophy  
D. All of the above
- (iv) Kalinga is in the current state of -----  
A. Bihar  
B. Odisha  
C. Jharkhand  
D. Assam

**Section C**

20. Compare and contrast the major principles of Buddhism and Jainism [3]  
21. Abdur Razzak, an ambassador from Persia, was impressed by the fortification of Vijayanagara Empire "Justify the statement [3]  
22. How does the religious texts like Mahabharata gives us an insight to the life of the people? Explain with examples [3]  
23. Explain the role of women in the society of the Indian subcontinent in the 16<sup>th</sup> and 17<sup>th</sup> century [3]

**Section D**

24. Explain the various sources of History of the life of the people of 16<sup>th</sup> and 17<sup>th</sup> Indian subcontinent keeping The Ain -Akbari as the main source [8]  
25. How the archeologists used evidence from material remains to piece together parts of fascinating Harappan History? Explain [8]  
26. The South western part of Vijaya nagara settlement is designated as ' Royal centre'. Explain [8]

## Section E

### 27. **The One Lord**

Here is a composition attributed to Kabir

Tell me, brother, how can there be No one lord of the world but two?

Who led you so astray?

God is called by many names. Names like Allah Ram Karim Keshav, Hari and Hazrat. Gold may be shaped into rings and bangles. Isn't it gold all the same? Distinctions are only in words that we invent.

Kabir says they are both mistaken. Neither can find God. One kills the goat, the other cows. They waste their lives in disputation.

1. How did Kabir describe the Ultimate Reality? [1]
2. Explain the arguments give by Kabir against the lords of the world od different communities. [2]
3. Do you agree with Kabir? Give your own views as well. [2]

### 28. **A tiger like husband**

This is a summary of a story from the Adi Parva one of the chapters of mahabharatha.

The pandavas had fled into the forest. They were tired and fell asleep. Only Bheema the second pandava , renowned for his powers,was keeping watch . A man eating Rakshasa caught the scent of the pandavas and send his sister hidimba to capture them. She fell in love with him, transformed herself into a lovely maiden and proposed to him.

He refused . Meanwhile ,the Rakshasa arrived and challenged and Bhima killed him . The others woke up hearing the noise .Hidimba introduced herself and declared her love for Bhima.

She told Kunti ,“ I have forsaken my friends my dharma ,and my kin; and good lady, chosen your tiger like son for my man... Whether you think me a fool or your devoted servant, let me join you, great lady, with your son as my husband.”

Ultimately,Yudhishtira agreed to the marriage on one condition that they would spend the day together ,but that Bhima would return every night . The couple roamed all over the world during the day time . In due course ,Hidimba gave birth to a Rakshasa boy named Ghatotkacha .Then the mother and son left the Pandavas. Ghatotkacha promised to return to the Pandavas whenever they needed him . Some historians suggest that the term Rakshasa is used to describe the people whose practices differed from these laid down in Brahmanical texts.

1. Who was Hidumba? [3]
2. On what condition did Bhima agreed to marry Hidumba? Who kept the condition? [2]

### 29. **The poor peasents**

An excerpt from Berniers's description of the peasantry in the country side. Of the vast tracts of country constituting the empire of Hindustan, many are little more than sand or barren mountains, badly culrivated thinly populated. Even a considerable portion of the good land remains untilled for want of labourers : many of whom perish in consequence of the bad treatment they experience from governors. The poor people, when they become incapable of discharging the demands of the land lords are not only often deprived of the

means of subsistence, but are also made to lose their children, who are carried away as slaves.

Thus it happens that the peasantry, driven to despair by so excessive a tyranny, abandon the country side. In this instance, Bernier was participating in contemporary debates in Europe concerning the nature of state and society and intended that his description of Mughal India would serve as a warning to those who did not recognise the merits of private property.

1. What were the problems about cultivating the land, according to Bernier? [2]
2. Why did the peasantry abandon the land? [1]
3. Explain the reasons given by Bernier for exploitation of the peasants? [2]

### Section F

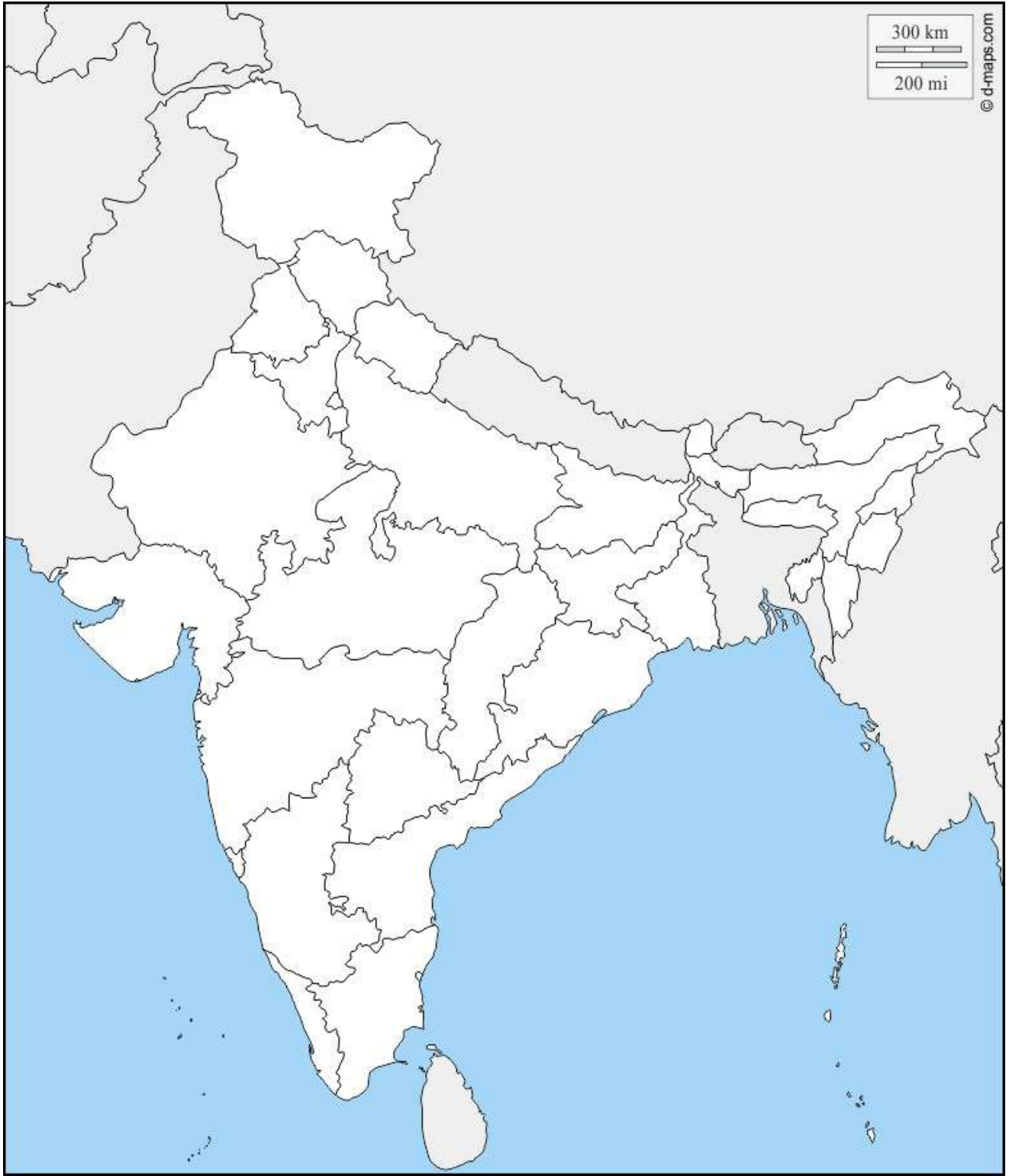
30. The following is a Map question. Each point to be located holds  $\frac{1}{2}$  marks. All the points mentioned should be located in the given marks. All points are compulsory to locate and mark [1/2 × 10 = 5 marks]

A. In the given outline map of India mark the following major sites of the Harappan civilisation

- i. The port city where remaining of a ship was excavated.
- ii. A centre of crafts production.
- iii. The site from where we got the evidence of a ploughed land
- iv. The Indian site from where a terracotta model of plough was retrieved
- v. Water reservoirs where found

30 B. Mark in the same map the five major political centres of the Mauryan Empire

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# DELHI PUBLIC SCHOOL

## SAIL Township, Ranchi

### HALF YEARLY EXAMINATION 2022

Class: XII  
Subject: Informatics Practices

Max Marks: 70  
Time: 3 Hrs.

#### General Instructions:

1. This question paper contains two parts, A and B. Each part is compulsory.
2. **Part A** has two sections:  
**Section-I** is short answer questions, to be answered in one word or one line (Any 20 question).  
**Section-II** has two case study questions. Case study has 5 sub-part each with 1 mark with 1X10=10 marks
3. **Part B** is Descriptive Paper, has three sections:  
**Section-I** is short answer questions of 2 marks each with 2X10=20 marks  
**Section-II** is long answer questions of 3 marks each with 3X4=12 marks  
**Section-III** is very long answer questions of 4 marks each 4X2=8 marks

#### PART-A: Section-I

[ Attempt any 20 questions from questions 1 to 21 : 1X20=20 ]

1. **State whether True or False:** (1)
  - (i) Copying someone else's work or programs and claiming them as your own is an act of plagiarism.
  - (ii) Cyber bullying is an attempt to acquire sensitive information such as usernames, passwords and credit card details by sending emails or instant messaging.
2. **Fill in the blanks:** (1)

T20 match analysis in Dubai is to be plotted. The command used to give title to y-axis as 'Total Score' of each team in a graph is.....

  - (i) plt.show()
  - (ii) plt.plot("TotalScore")
  - (iii) plt.ylabel("Total Score")
  - (iv) plt.title("TotalScore")
3. **Write the output of the following SQL command.** (1)

```
Select Round(67834.238,-3);
```

  - (i) 68000
  - (ii) 67000
  - (iii) 67834.000
  - (iv) 70000
4. **Which method is used to access horizontal subset of a DataFrame?** (1)
  - (i) iterrows()
  - (ii) sort\_values()
  - (iii) head()
  - (iv) iteritems()
5. **In Pandas, emp is a Series that stores names of the employees.** (1)

```
emp=pd.Series("Archana", "Tiya", "Manit", "Sanskaar")
```

Which command is used to assign the index as ("Emp1", "Emp2", "Emp3", "Emp4") explicitly?

  - (i) emp\_index=('Emp1', 'Emp2', 'Emp3', 'Emp4')
  - (ii) emp.index=('Emp1', 'Emp2', 'Emp3', 'Emp4')
  - (iii) emp.index=['Emp1', 'Emp2', 'Emp3', 'Emp4']
  - (iv) emp[index]=('Emp1', 'Emp2', 'Emp3', 'Emp4')
6. **A histogram displays numerical data by grouping data into ..... of equal width.** (1)
7. **This protocol is used to send email messages over the internet.** (1)
8. **.....Refers to tabular data saved as plain text where data values are separated by commas.** (1)
9. **Consider a series object vls, created using following statement:** (1)

```
vls= pd.Series([11, 23, 31, 61, 87, 93], index=['a', 'b', 'c', 'd', 'f'])
```

..... statement retrieves and prints the first three elements.
10. **IT Act (Cyber law) was introduced in India in the year.....** (1)
  - (i) 2000
  - (ii) 2008
  - (iii) 2009
  - (iv) 2014



11. A ..... is a set of one or more columns of a table that uniquely identifies a record in a database table but accepts only one null value. (1)  
 (i) Primary Key (ii) Unique Key  
 (iii) Foreign key (iv) Candidate key
12. .... is a document that provides legally binding guidelines for the use and distribution of software. (1)
13. Write the output of the following code: (1)  

```
import pandas as pd
Ser1=pd.Series(range(8),index=['A','B','C', 'D', 'E', 'F', 'G', 'H'])
print(Ser1)
```
14. To save the transactions permanently by SQL the command is: (1)  
 (i) COMMIT (ii) ROLLBACK (i) SAVEPOINT (ii) TRUNCATE
15. Write the output of the following code: (1)  

```
import pandas as pd
Marks=pd.Series({'Rahul':80, 'Aarush':98, 'Shobhit':89, 'Krish':90})
print(Marks[Marks>85])
```
16. Phishing is: ..... (1)  
 (i) Asking to visit an unknown web site (ii) Clicking a link to takes to an unauthorized site  
 (iii) Hacking an account (iv) Online fraud
17. Define Trademark grants \_\_\_\_\_ (1)  
 (i) Legal right (ii) Ownership right (i) Brand right (ii) All
18. The ..... command is used to see the structure of the table. (1)
19. Write the output of the following code: (1)  

```
import pandas as pd
a=pd.Series([78,45,89,98])
b=pd.Series([67,87,90])
student={"English":a,"Hindi":b}
df=pd.DataFrame(student)
print(df)
```
20. Once one copies a content of the other source without consent, then it comes under \_\_\_\_\_ (1)  
 (i) Copyright violation (ii) Plagiarism  
 (iii) Trademark Infringement (iv) None of these
21. Name the term to describe taking control over a system, etc. by a third person or group. (1)

### Part-A: Section-II

[ Both the case study-based questions (22 & 23) are compulsory: (1X5)X2=10]

22. Consider the following DataFrame **df** and answer the questions from (i) – (v)

|   | RollNo | Name            | UT1 | UT2 | UT3 | UT4 |
|---|--------|-----------------|-----|-----|-----|-----|
| 0 | 1      | Pratima Sinha   | 29  | 30  | 19  | 20  |
| 1 | 2      | Manoj Gupta     | 20  | 18  | 18  | 24  |
| 2 | 3      | Tathagata Patra | 18  | 22  | 20  | 20  |
| 2 | 4      | Firoz Khan      | 22  | 23  | 27  | 22  |
| 4 | 5      | Kirti Rani      | 15  | 24  | 29  | 21  |
| 5 | 6      | Raman Kumar     | 21  | 15  | 23  | 30  |
| 6 | 7      | Bineet Banerjee | 28  | 16  | 24  | 33  |

- (i) Select the options from the command that will give the following output: (1)

```
Roll No      7
Name        Tathagata Patra
UT1         29
UT2         30
UT3         29
UT4         33
dtype: object
```

- (a) print(df.max)  
 (b) print(df.max())  
 (c) print(df.max(axis is=1))  
 (d) print(df.max, axis=1)

- (ii) The teacher needs to know the marks scored by the student with roll number 7. Help him/her to identify the correct set of statements from the given options (More than one may be correct): (1)
- (a) `df1=df [roll no = =7]`  
`print (df1)`
  - (b) `df1=df [df ['rollno'] = =7]`  
`print (df1)`
  - (c) `df1=df [df.rollno = = 7 ]`  
`print (df1)`
  - (d) `df1=df [rollno.df = =7]`  
`print (df1)`

- (iii) Which of the following statement/s will give the exact number of values in each column of the DF? (1)
- (i) `print( df.count( ) )`
  - (ii) `print( df.count(0) )`
  - (iii) `print(df.count)`
  - (iv) `print(df.count(axis = 'index'))`

Choose the correct option:

- (a) both (i) and (ii)
  - (b) only (ii)
  - (c) (i), (ii) and (iii)
  - (d) (i), (ii) and (iv)
- (iv) Which of the following command will display the column labels of the DF? (1)
- (a) `print( df.columns( ) )`
  - (b) `print( df.column )`
  - (c) `print( df.columns )`
  - (d) `print( df.column( ) )`
- (v) A student Neeraj wants to add a new column, the score of Grade with the values 'B1', 'B2', 'A2', 'B2', 'B1', 'A1', 'A1', 'A1' to the DataFrame. Help him choose the command to do so: (1)
- (a) `df['Grade'] = ['B1', 'B2', 'A2', 'B2', 'B1', 'A1', 'A1']`
  - (b) `df.column = ['B1', 'B2', 'A2', 'B2', 'B1', 'A1', 'A1']`
  - (c) `df.loc['Grade'] = ['B1', 'B2', 'A2', 'B2', 'B1', 'A1', 'A1']`
  - (d) both b and c are correct.

23. Consider the table EMPLOYEE given below and answer questions (i) to (v):

| Emp_id | Name      | DOJ        | Sex | City      | Grade | Salary |
|--------|-----------|------------|-----|-----------|-------|--------|
| 111    | Jugal     | 21/05/1998 | M   | Delhi     | A     | 8000   |
| 222    | Sharmila  | 21/05/1997 | F   | Mumbai    | B     | 9000   |
| 333    | Sandeep   | 29/08/1998 | M   | Kochi     | A     | 8000   |
| 444    | Sangeeta  | 13/06/1996 | F   | Kolkata   | B     | 10000  |
| 555    | Rakesh    | 31/10/1999 | M   | Mumbai    | C     | 9000   |
| 666    | Shyam     | 21/05/1989 | M   | Bangalore | A     | 8000   |
| 777    | Aishwarya | 11/01/1990 | F   | Delhi     | B     | 12000  |

- (i) Select the command from the options that will give the output as: (1)

**Name**  
Jugal  
Sandeep  
Shyam

- (i) Select name from EMPLOYEE where Gender= 'M' AND Salary>7000;
- (ii) Select name from EMPLOYEE where Gender= 'M' OR Grade=A;
- (iii) Select name from EMPLOYEE where Gender= 'M' AND Grade= 'A';
- (iv) Select name from EMPLOYEE where Salary=8000 AND NOT Grade='B' ;

Choose the correct option

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

(ii) What will be the output of the following command: (select from options): (1)  
 Select Name, DOJ from EMPLOYEE where Gender = "F" Order By Name;

(a) **Name**                    **DOJ**  
 Sharmila                    1997-05-21  
 Sangeeta                    1996-06-13  
 Aishwarya                    1990-02-11

(b) **Name**                    **DOJ**  
 Sangeeta                    1996-06-13  
 Sharmila                    1997-05-21  
 Aishwarya                    1990-02-11

(c) **Name**                    **DOJ**  
 Aishwarya                    1996-06-13  
 Sangeeta                    1997-05-21  
 Sharmila                    1990-02-11

(d) **Name**                    **DOJ**  
 Aishwarya                    1990-02-11  
 Sangeeta                    1996-06-13  
 Sharmila                    1997-05-21

(iii) Aman has given the following command to obtain the total salary of female employees. (1)  
 "SELECT sum(salary) FROM Employee"

But she is not getting the desired result. Help her by writing the correct command.

- (a) select sum(salary) from EMPLOYEE where group by 'F';
- (b) select sum (salary) from EMPLOYEE where sex='F' group by sex;
- (c) select sum(salary) from EMPLOYEE having sex='F' group by sex;
- (d) select sum(salary) from EMPLOYEE group by sex having sex= 'F';

(iv) Help Raman to write the command to display the name of the employee having more experience: (1)

- (a) select name, Min(DOJ) from EMPLOYEE;
- (b) select name, Max(DOJ) from EMPLOYEE;
- (c) select name, Min(DOJ) from EMPLOYEE group by name;
- (d) select name, Maximum(DOJ) from EMPLOYEE;

(v) State the command to display the average(salary) of employees of each grade. (1)

- (a) select grade, average(salary) from EMPLOYEE where group by Grade;
- (b) select grade, avg(salary) from EMPLOYEE where grade= 'A', 'B', 'C';
- (c) select grade, avg(salary) group by Grade from EMPLOYEE ;
- (d) select grade, avg(salary) from EMPLOYEE group by Grade ;

### PART-B: Section-I

[ Attempt all questions: 2X10=20]

24. Write Python code to create the following DataFrame books using Python Pandas. Also assign index as 'B1','B2','B3','B4' to the DF books. (2)

| BookName                | Class  | Price |
|-------------------------|--------|-------|
| Let us C                | BCA    | 270   |
| Artificial Intelligence | B.Tech | 350   |
| Database Management     | BCA    | 450   |
| Computer Architecture   | BCA    | 550   |

25. What is the difference between a WHERE and HAVING clause of SQL SELECT statement? (2)  
 OR

Differentiate between Aggregate functions and Single row functions.

26. Write the output of the following SQL commands: (2)

- (i) Select Mod(13,3);
- (ii) Select Power(5,3);
- (iii) Select Length("Data Science");
- (iv) Select Month('2020-03-12');

27. What will be the output of the following program: (2)

```
import pandas as pd
a=pd.Series([10,20,30,40,50],index=['a','e','i','o','u'])
print(a*5)
print(a<30)
a['i']=1000
print(a)
```

28. Write a python code to create a DataFrame with column heading (a and b) from the list given below: (2)  
[[1, 2], [3, 4], [5, 6], [7, 8]]

29. Consider the following SQL string: "IndoAryan Existentialism" (2)

Write the use of SUBSTR command to display:

- (i) "Indo" (ii) "Existentialism"

OR

Considering the same string "IndoAryan Existentialism", write SQL commands to display:

- (i) the position of the substring 'Ary' in the string "IndoAryan Existentialism"  
(ii) Replace the word 'Existentialism' with "3M"

30. Lekisha wants to plot a bar chart for the students of 9th class of different sections who have opted for the given subjects. Complete the code to perform the following operations: (1+0.5+0.5=2)

- (i) To plot bar chart using the given data set of subjects and students.  
(ii) To provide xticks as subjects with Graph heading "Result Analysis Report".

```
import matplotlib.pyplot as plt
Students=[10,12,15,17,19]
Subject=["French","Sanskrit","ICT", "Music","Art"]
_____ // Statement 1
_____ // Statement 2
_____ // Statement 3
plt.show()
```

31. Given a DataFrame df as shown below: (2)

|    | Col-1 | Col-2 | Col-3 | Res   |
|----|-------|-------|-------|-------|
| t1 | 100.0 | 100.0 | 60.0  | True  |
| t2 | 95.8  | 100.0 | 57.48 | True  |
| t3 | 89.3  | 100.0 | 53.58 | False |
| t4 | 82.0  | 85.4  | 49.20 | False |

Write statements to do the following:

- (i) Extract the values of row t2's & column col2's.  
(ii) Rearrange the records in descending order on Col-1.

32. Deepanjali received an SMS from her bank querying a recent transaction that she made online and asking for the pin number. Answer the following questions as to what she should do on receiving this SMS. (2)

- (i) Should she SMS her pin number to the given contact number?  
(ii) Should she call the bank helpline number to recheck the validity of the SMS received?

33. Why does often you find continuous advertisement at your social media accounts, that promotes the article you have searched recently on the internet? Explain. (2)

OR

What do you understand by net Etiquettes? Explain any two such etiquettes.

## Part-B: Section-II

[Attempt any 4 questions: 3X4=12]

34. Given a DataFrame namely sal as shown below: (3)

|         | Qtr1 | Qtr2 | Qtr3 | Qtr4 |
|---------|------|------|------|------|
| North   | 65   | 83   | 92   | 84   |
| South   | 85   | 82   | 92   | 93   |
| East    | 83   | 84   | 87   | 86   |
| West    | 74   | 83   | 93   | 92   |
| Central | 82   | 84   | 94   | 87   |

**Write statement to do the following :**

- (a) Write a code that has accessed the data of the above DF from a csv file, 'sal.csv'
- (b) Change the indexes "North","South","East","West","Central" to "N","S","E","W","C" respectively.
- (c) Write code to store the dataframe in a csv file 'salary.csv' whose path is d:\salary.csv

35. **What are the challenges of e-Waste? How can it be managed and reused?** (3)

OR

**What is the difference between copyright and patent? Write a brief note on Cyber Law act in India.**

36. **A dictionary 'toys' contains the following:** (3)

toys= {'Name': ['Talking Tom', 'Blocks', 'Number game', 'ludo'], 'Price': [400,250, 300,150]}

Write statements for the following using the above dictionary:

- (i) Create a DataFrame named "stock"
- (ii) Add a column called 'discount' with the following data: [ 30, 40, 15, 25]
- (iii) Delete column discount with all values.

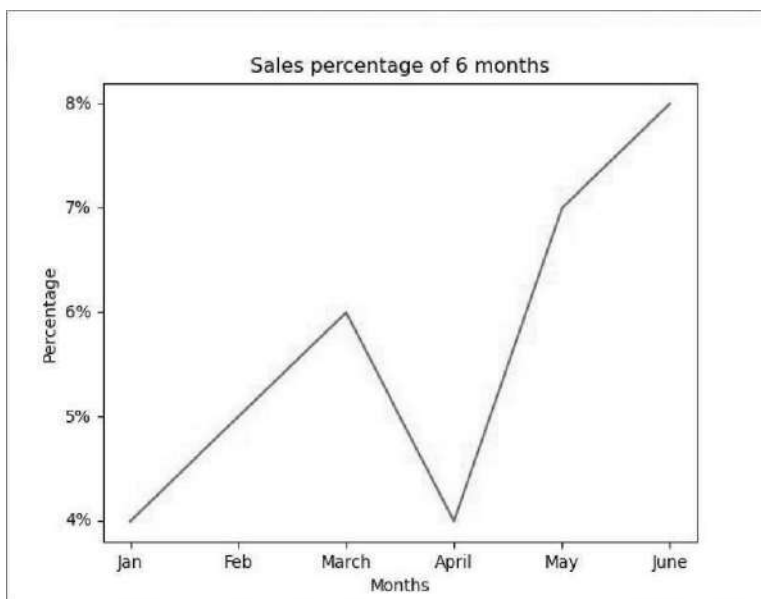
37. **A relation Product is given below:** (3)

| P_No  | Ptype       | P_Manufacturer | Price | Qty |
|-------|-------------|----------------|-------|-----|
| P1001 | Pencil      | Natraj         | 15    | 20  |
| P1002 | Ball Pen    | Reynolds       | 10    | 50  |
| P1003 | Gel Pen     | Flair          | 20    | 100 |
| P1004 | Sketch Pen  | Doms           | 50    | 35  |
| P1005 | Paint Brush | Doms           | 30    | 15  |
| P1006 | Pencil      | Natraj         | 15    | 30  |
| P1007 | Ball Pen    | Reynolds       | 10    | 10  |
| P1004 | Sketch Pen  | Doms           | 50    | 60  |

Write SQL commands to:

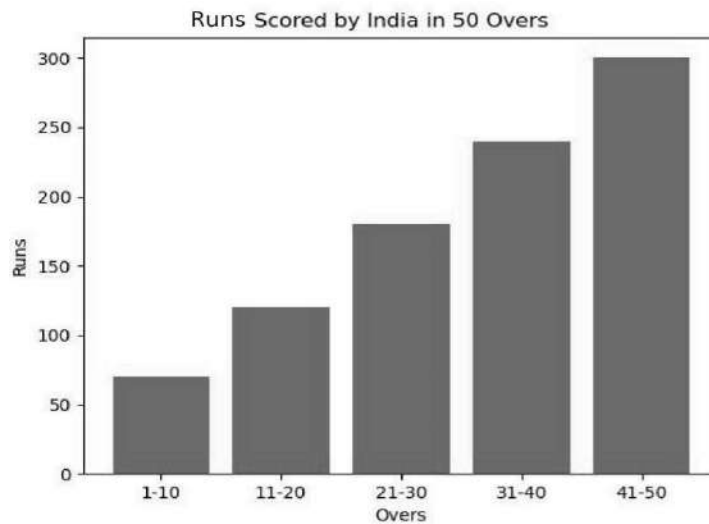
- (i) Display the Average price of each type of Product having quantity more than 30.
- (ii) Increase the price of the products manufactured by Doms by 2%.
- (iii) Display the Maximum and Minimum price of all types of Products.

38. **Write a code to plot the Sales Percentage of Bags for the last 6 months as shown in the figure given below:** (3)



OR

Write a code to plot the histogram to display the total runs scored by India in a match as shown in the figure given below: Runs=[70, 120,180,240, 300]



### Part-B: Section-III

[Attempt all: 4X2=8]

39. Write a program in Pandas to create the following DataFrame TotalMarks from a Dictionary: (4)

| RollNo | Name     | TERM I | TERM II |
|--------|----------|--------|---------|
| 1      | Anshu    | 55     | 76      |
| 2      | Prachi   | 82     | 88      |
| 3      | Divyansh | 95     | 98      |
| 4      | Chetan   | 76     | 78      |
| 5      | Sahil    | 68     | 65      |

Perform any four the following operations on the DataFrame TotalScore:

- Create a DataFrame TotalMarks.
- Add both sum of the Marks of a Student (Term I & II) to a new added column "Total".
- Display the highest marks in both TERM I and TERM II of the DataFrame.
- Display the records in descending order on the values of TERM-I
- Display the records of 2<sup>nd</sup> & 3<sup>rd</sup> rows and 3<sup>rd</sup> & 4<sup>th</sup> columns if assigned index are 'One', 'Two', 'Three', 'Four', 'Five' respectively.

40. Write any Four of the SQL functions (command) which will perform the following operations: (4)

- To display the string ("Information Technology") in Uppercase.
- To remove spaces from the beginning and end of a string, " Informatics ".
- To display the name of the day, e.g., Friday or Sunday from your date of birth, dob.
- To display the starting position of your first name(say 'fname') from your whole name( say 'name').
- Write the output: SELECT UPPER(LEFT(MID("Informatics Practices", 12, Length("Indo Aryan")),9));

###



# DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hours

Subject - Legal Studies  
Maximum Marks- 80

## General Instructions:

- All questions are compulsory.
- Marks are allotted after every question.

- 
1. Mention True or False for each :- [6]
    - A. The Supreme Court of India came into being in 1947
    - B. The law declared by the Supreme Court of India is binding on all court
    - C. India has an integrated system of judiciary
    - D. The judges of Supreme Court of India have life tenure
    - E. Subordinate courts are superior to district courts in the order of their hierarchy
    - F. India is a civil law jurisdiction
    - G. The office of solicitor general an additional solicitor general is governed by the Indian constitution
  2. When was the transfer of property act passed in India? [1]
  3. What do you understand by the term property? [2]
  4. Section \_\_\_ of Transfer of Property Act provides doctrine of Lis \_\_\_\_\_. [2]
  5. Explain the term Lease? [2]
  6. What can be transferred under the Transfer of 1 Property Act, 1882 ? [2]
    - a. An easement along with the dominant heritage
    - b. Political pension
    - c. Spes Successionis
    - d. Stipends allowed to the civil pensioners of the government
  7. What do you understand by the term IPR? [2]
  8. Who was made the first prime minister of Maurya Emperor? [1]
  9. When did our constitution came into force ? What is the meaning of term Republic? [2]
  10. Who is the present Chief Justice of India? [1]
  11. The landmark 1973 Supreme Court case of Keshavananda Bharti vs State of Kerela case discussed the question about:- [4]
    - a. Collegium model of appointment of judges in India
    - b. Scope of separation of powers in India
    - c. The basic structure or features of the constitution
    - d. Power of judicial review
  12. What is the power of Judicial Review? [2]
  13. State two objectives of Lis Pendens. [2]

14. As per article \_\_\_ of the Indian constitution the proceedings of the Supreme Court of India are conducted in English only . [2]
15. The first legal officer to the country is \_\_\_\_\_ [1]
16. Why is Intellectual Property Rights important? [2]
17. Phulmaniya travels from Ranchi to Kolkata to work as a domestic help. On landing in Kolkata, she was subjected to forced surrogacy. Which Fundamental Right of Phulmaniya has been violated? [2]
- Right to Equality
  - Right against Exploitation
  - Right to Life and Personal Liberty
  - Right to Freedom
18. Differentiate between independence of judiciary and impartiality of judges. [2]
19. Mention the different types of Intellectual Property . [4]
20. Write a short note on Types of Property. [4]
21. Mention your knowledge about how can a property be transferred? [4]
22. What is the eligibility criteria of The Judges of Supreme Court of India ? [4]
23. Explain in brief the 3 types of IPR. [6]
24. Write down the eligibility criteria of Supreme court judges [4]
25. Explain the Essentials to constitute Lis Pendens. [4]



26. Which place is shown in the picture ? How much importance does this place have ? [4]
27. Mention in brief - : [6]
- Two liabilities of a seller
  - Two rights of a seller
  - One liability and one right of a buyer.
28. Divya purchased a bottle of orange juice from a retailer. As she consumed more than 3/4 of the contents of the bottle, she found decomposed remains of a snail in the bottle. After seeing the remains of a snail, she fell sick on the thought of what she consumed. Can Divya sue the manufacturer? [2]
- Divya cannot sue the manufacturer in the absence of a contract
  - Divya can sue the manufacturer as he had duty to take care to see that bottles did not contain any other substance than the juice and hence liable to have broken that duty
- There is no remedy available to Divya.
  - None of the above









# DELHI PUBLIC SCHOOL

## SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hours

Subject - Mathematics  
Maximum Marks- 80

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### General Instructions:

This question paper contains two parts A and B. Each part is compulsory . Part A carries 24 marks and part B carries 56 marks.

#### **PART A**

1. It consists of two sections I and II
2. Section I comprises of 16 very short answer type questions. Internal choice has been provided in 2 questions.
3. Section II contains two case study questions. Each is question is comprised of 5 MCQs i.e., Case Based Multiple - Choice Questions. Examinees have to attempt any 4 out of 5 MCQs.

#### **PART B**

1. It consists of three sections III , IV and V
  2. Section III comprises of 10 questions of 2 marks each.
  3. Section IV comprises of 7 questions of 3 marks each.
  4. Section V comprises of 3 questions of 5 marks each.
  5. Internal choice has been provided in 3 questions of Section III , 2 questions of section IV and 2 questions of section V. Examinees have to attempt only one of the alternatives in all such questions.
- 

### **PART A**

#### **SECTION I**

All questions are compulsory. In case of internal choices attempt any one

1. Give an example of a relation which is reflexive and transitive but not symmetric.
2. Prove that  $f : \mathbf{R} \rightarrow \mathbf{R}$  defined by  $f(x) = 3-4x$  is an onto function.

- Evaluate  $\tan^{-1} 1 + \cos^{-1}\left(-\frac{1}{2}\right) + \sin^{-1}\left(\frac{-1}{2}\right)$ .
- Find the domain of  $f$  given by  $f(x) = \sin^{-1} x + \sin^{-1} 2x$ .
- For what values of  $x$  and  $y$  following two matrices are equal

$$\begin{bmatrix} 3x + 7 & 5 \\ y + 1 & 2 + 3x \end{bmatrix} \text{ and } \begin{bmatrix} 0 & y - 2 \\ 8 & -5 \end{bmatrix}.$$

**OR**

If  $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$  and  $B' = \begin{bmatrix} 1 & 5 \\ 1 & 6 \end{bmatrix}$  find  $AB$ .

- Find the adjoint of the matrix  $A = \begin{bmatrix} 4 & 7 \\ -8 & 5 \end{bmatrix}$
- Using determinants find the equation of the line joining the points  $(3, 1)$  and  $(9, 3)$ .
- Find the value of the determinant

$$\begin{vmatrix} x + y & y + z & z + x \\ z & x & y \\ 1 & 1 & 1 \end{vmatrix}$$

- Discuss the continuity of the function  $\sin x + \tan x$ .
- Find the second derivative of  $\tan^{-1} x$ .
- If  $y^x = x^y$  find  $\frac{dy}{dx}$ .
- The radius of a circle is increasing at the rate of  $0.7\text{cm/s}$ . What is the rate of increase of its circumference?

**OR**

Show that  $f(x) = e^{2x}$  is a strictly increasing function on  $\mathbf{R}$ .

- Find the minimum value of  $|3 + \sin 4x|$ .

- Integrate  $\int_0^{\frac{\pi}{2}} \cos^2 x \, dx$ .

**OR**

Integrate  $\int_0^2 x\sqrt{x+2} \, dx$ .

- Integrate  $\int \frac{\sqrt{\tan x}}{\sin x \cos x} \, dx$

- What do you mean by feasible region in a LPP problem?

## SECTION II

Both the following case study questions are compulsory. Attempt any 4 subparts of each question. Each part carries 1 mark.

17. The sum of the surface areas of a rectangular parallelepiped with sides  $x, 2x$  and  $\frac{x}{3}$  and a sphere of radius  $y$  is given to be constant.

On the basis of above information answer the following questions

(i) Let the constant be  $S$  then which of the following is correct

(a)  $S = 4x^2 + 6\pi y^2$

(b)  $S = 6x^2 + 4\pi y^2$

(c)  $S = 2x^2 + 3\pi y^2$

(d)  $S = 3x^2 + 2\pi y^2$

(ii) If the combined volume is denoted by  $V$  then which of the following is correct

(a)  $V = \frac{4}{3}\pi y^3 + \frac{2}{3}x^3$

(b)  $V = \frac{2}{3}\pi y^3 + \frac{4}{3}x^3$

(c)  $V = 4\pi y^3 + 2x^3$

(d)  $V = 2\pi y^3 + 4x^3$

(iii) If  $V$  is minimum then the relation between  $x$  and  $y$  is

(a)  $x = 2y$

(b)  $x = 3y$

(c)  $y = 2x$

(d)  $y = 3x$

(iv) The value of minimum volume is

(a)  $\frac{4}{3}x^3 \left(1 + \frac{2\pi}{27}\right)$

(b)  $\frac{2}{3}x^3 \left(1 + \frac{4\pi}{27}\right)$

(c)  $\frac{4}{3}x^3 \left(1 + \frac{4\pi}{27}\right)$

(d)  $\frac{2}{3}x^3 \left(1 + \frac{2\pi}{27}\right)$

(v) The value of  $S$  when  $V$  is minimum is

(a)  $2x^2 \left(3 + \frac{2\pi}{3}\right)$

(b)  $x^2 \left(3 + \frac{2\pi}{9}\right)$

(c)  $2x^2 \left(3 + \frac{\pi}{9}\right)$

(d)  $3x^2 \left(3 + \frac{2\pi}{9}\right)$

18. The upper speed  $v(t)$  of a rocket at time  $t$  is approximated by  $v(t) = at^2 + bt + c$ ,  $0 \leq t \leq 100$  where  $a$ ,  $b$  and  $c$  are constants. It has been found that the speed at times  $t = 3$ ,  $t = 6$  and  $t = 9$  seconds are respectively 64, 133 and 208 miles per second.

If  $\begin{bmatrix} 9 & 3 & 1 \\ 36 & 6 & 1 \\ 81 & 9 & 1 \end{bmatrix}^{-1} = \frac{1}{18} \begin{bmatrix} 1 & -2 & 1 \\ -15 & 24 & -9 \\ 54 & -54 & 18 \end{bmatrix}$ , then answer the following questions

i. The value of  $b + c$  is

A. 20

B. 21

C.  $\frac{3}{4}$

D.  $\frac{4}{3}$

ii. The value of  $a + c$  is

A. 1

B. 20

C.  $\frac{4}{3}$

D. None of these

iii.  $v(t)$  is given by

A.  $v(t) = t^2 + 20t + 1$

B.  $v(t) = \frac{1}{3}t^2 + 20t + 1$

C.  $v(t) = t^2 + \frac{1}{3}t + 20$

D.  $v(t) = t^2 + t + 1$

iv. The speed at time  $t = 15$  second is

A. 346 miles /second

B. 356 miles /second

C. 366 miles /second

D. 376 miles /second

v. The time at which the speed of rocket is 784 mile per second is

A. 20 seconds

B. 30 seconds

C. 25 seconds

D. 27 seconds

**PART B**

**SECTION III**

All questions are compulsory . In case of internal choices attempt any one

19. If  $A = \{1,2,3\}$  .Find the number of all one-one functions from set A to A. List all those one-one functions.

**OR**

Show that the function  $f : \mathbf{R} \rightarrow \mathbf{R}$  given by

$$f(x) = \begin{cases} 1, & \text{if } x > 0 \\ 0, & \text{if } x = 0 \\ -1, & \text{if } x < 0 \end{cases}$$

is neither one - one nor onto

20. If  $x, y, z \in [-1, 1]$  such that  $\sin^{-1} x + \sin^{-1} y + \sin^{-1} z = \frac{-3\pi}{2}$  find the value of  $x^2 + y^2 + z^2$ .

**OR**

Find the value of

$$\cot \left[ \cos^{-1} \left( \frac{7}{25} \right) \right] + \tan \left( \cot^{-1} \frac{24}{17} \right)$$

21. If  $F(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$  then show that  $F(x).F(y) = F(x + y)$ .

22. If  $x,y \in \mathbf{R}$  find the interval in which the following determinants lies

$$\begin{vmatrix} \cos x & -\sin x & 1 \\ \sin x & \cos x & 1 \\ \cos(x + y) & -\sin(x + y) & 0 \end{vmatrix}$$

23. For what value of  $\alpha$  is the following function  $f$  defined by

$$F(x) = \begin{cases} \alpha(x^2 - 2x), & \text{if } x \leq 0 \\ 4x + 1, & \text{if } x > 0 \end{cases}$$

is continuous at  $x=0$ ? What about continuity at  $x=1$ .

OR

Prove that the function  $f$  defined by

$$f(x) = \begin{cases} x^2 \sin \frac{1}{x}, & \text{if } x \neq 0 \\ 0, & \text{if } x = 0 \end{cases}$$

is a continuous function for every  $x \in \mathbf{R}$

24. If  $x = \sqrt{a^{\sin^{-1} t}}$ ,  $y = \sqrt{a^{\cos^{-1} t}}$  prove that  $\frac{dy}{dx} = \frac{-y}{x}$ .

25. Find  $\frac{dy}{dx}$ , if  $\sin^2 y + \cos xy + x^2 y = k$ .

26. Integrate

$$\int \frac{dx}{x^2(x^4 + 1)^{\frac{3}{4}}}$$

27. Integrate

$$\int \frac{\sin x}{\sin(x - a)} dx$$

28. Integrate

$$\int_1^2 \left( \frac{1}{x} - \frac{1}{2x^2} \right) e^{2x} dx$$

#### SECTION IV

All questions are compulsory. In case of internal choice attempt any one.

29. 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.

30. Examine the differentiability of the function  $f$  given by

$$f(x) = \begin{cases} 2x + 3, & \text{if } -3 \leq x < -2 \\ x + 1, & \text{if } -2 \leq x < 0 \\ x + 2, & \text{if } 0 \leq x \leq 1 \end{cases}$$



31. If  $x\sqrt{1+y} + y\sqrt{1+x} = 0$ , for  $-1 < x < 1$  prove that  $\frac{dy}{dx} = \frac{-1}{(1+x)^2}$ .

OR

If  $x = a(\cos t + t \sin t)$  and  $y = a(\sin t - t \cos t)$  find  $\frac{d^2y}{dx^2}$ .

32. A square piece of tin of side 18 cm is to be made into a box without top by cutting a square from each corner and folding up the flaps to form a box. What should be the side of the square to be cut off so that the volume of the box is maximum.

33. Find the intervals in which the function f given by

$$f(x) = \frac{4\sin x - 2x - x \cos x}{2 + \cos x} \text{ is}$$

(i) Strictly increasing

(ii) Strictly decreasing

34. Integrate  $\int \sin^{-1}\left(\frac{2x}{1+x^2}\right) dx$ .

OR

Integrate  $\int(\sqrt{\tan x} + \sqrt{\cot x}) dx$

35. Solve the following LPP problem graphically

Minimise and Maximise

$$Z = 3x + 9y$$

Subject to the constraints

$$x + 3y \leq 60$$

$$x + y \geq 10$$

$$x \leq y$$

$$x \geq 0, y \geq 0$$

### SECTION V

All the questions are compulsory. In case of internal choices attempt any one.

36. Let R be a relation defined on the set  $A = \{1,2,3,4,5,6,7,8,9,10,11,12\}$  is given by  $R = \{(a,b) : |a - b| \text{ is a multiple of } 4\}$ . Find whether R is reflexive, symmetric and transitive. Find the equivalence class related to 1 i.e.[1].

37. Integrate  $\int \frac{5x+3}{\sqrt{x^2+4x+1}} dx$ .

OR

Integrate  $\int \frac{(x^2+1)(x^2+2)}{(x^2+3)(x^2+4)} dx$ .

38. If  $(x - a)^2 + (y - b)^2 = c^2$ , prove that  $\frac{\left[1 + \left(\frac{dy}{dx}\right)^2\right]^{\frac{3}{2}}}{\frac{d^2y}{dx^2}}$  is a constant independent of a and b.

OR

If  $x = \sin \theta$  and  $y = \sin p \theta$  prove that  $(1 - x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} + p^2 y = 0$

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# DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 2 Hours

Subject - Hindustani Music Vocal  
Maximum Marks - 30

## खंड - अ

निम्नलिखित में से किन्ही 15 (पंद्रह) प्रश्नों के सही उत्तर दीजिए। सभी प्रश्नों के अंक समान हैं।

[1X15=15]

1. निम्न में से कौन सा बोल रूपक के बोलों में शामिल है?
  - i) धी धी ना
  - ii) ती ती ना
  - iii) धा धी ना
  - iv) ती धी ना
2. रात 12 बजे से सुबह 12 बजे तक गाए व बजाए जाने वाले राग को क्या कहते हैं?
  - i) उत्तरांगवादी राग
  - ii) पूर्वांगवादी राग
  - iii) संधिप्रकाश राग
  - iv) मौसमी राग
3. (सा) संकेतित करता है-
  - i) कण
  - ii) गमक
  - iii) खटका
  - iv) मीड
4. सा - म संवाद में श्रुति अंतर है -
  - i) 16
  - ii) 12
  - iii) 9
  - iv) 7

5. एक स्वर से दूसरे स्वर पर आवाज को बिना खंडित किए हुए जानें को कहते हैं-
- खटका
  - मुर्की
  - मीड
  - कण
6. निम्न में से कौन सा राग भैरवी थाट का है?
- मालकौंस
  - भैरव
  - बागेश्री
  - बिहाग
7. निम्न में से कौन सा ताल पखावज पर बजाया जाता है?
- झपताल
  - धमार
  - रूपक
  - तीनताल
8. उस छोटे से स्वर समूह को क्या कहते हैं, जो संक्षेप में राग का परिचायक हो?
- बोल बांट
  - अलंकार
  - पकड़
  - फिरत
9. षडज ग्राम का श्रुति विभाजन है -
- 4-3-2-4-3-2-4
  - 4-3-4-2-4-3-2
  - 4-3-2-4-4-3-2
  - 3-4-2-2-4-3-2
10. किस ताल में प्रत्येक विभाग की मात्राएं भिन्न हैं?
- एकताल
  - तीनताल
  - धमार
  - कहरवा

11. मुर्की में कितने स्वर प्रयुक्त होते हैं?

- i) 1
- ii) 2
- iii) 3
- iv) 4

12. क्या भिन्न है?

- i) तिरिप
- ii) लीन
- iii) कंपित
- iv) कुतप

13. राग मालकौंस का वादी- संवादी स्वर है-

- i) ध - रे
- ii) रे - ध
- iii) म - सा
- iv) सा- म

14. ' ग म ध म ग म ग सा ' ये किस राग की विशेष स्वर संगतियाँ हैं।

- i) मालकौंस
- ii) बागेश्री
- iii) भैरव
- iv) बिहाग

15. किस ताल में खाली पर सम है?

- i) धमार
- ii) रूपक
- iii) एकताल
- iv) झपताल

16. जो तान बंदिश के पदों को लेकर बनाई जाती है, वो कहलाते हैं-

- i) बोल बनाव
- ii) बोल बाँट
- iii) बोल पढंत
- iv) बोल तान

17. तीन ग्रामों से कुल कितनी मुर्छनाएं उत्पन्न होती है?

- i) 21
- ii) 24
- iii) 7
- iv) 6

18. वाद्याध्याय में पंडित जी ने सारे वाद्यों को कितने भागों में विभाजित किया है-

- i) दो
- ii) तीन
- iii) चार
- iv) पाँच

19. कई स्वरों को एक मात्रा में गाने व बजाने के लिए चिन्ह है-

- i) X ( सम का)
- ii) ( ) (कोष्ठक का)
- iii) S ( अवग्रह का)
- iv) ˘ ( अर्धचाँद का)

### खंड - ब

निम्नलिखित में से किन्हीं 3 (तीन) प्रश्नों के सही उत्तर दीजिए। सभी प्रश्नों के अंक समान हैं।

[5X3=15]

1. राग बागेश्री में एक द्रुत ख्याल स्वरलिपि सहित लिखिए।
  2. संगीत रत्नाकर का संक्षिप्त परिचय दीजिए।
  3. राग भैरव का वर्णन कीजिए तथा लगभग 25 - 30 स्वरों में उसके राग विस्तार भी लिखिए।
  4. धमार ताल का विवरण तथा उसकी दुगुन लिखिए।
  5. ग्राम और खटका को परिभाषित कीजिए।
-



# DELHI PUBLIC SCHOOL

## SAIL TOWNSHIP, RANCHI

HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 2 Hours

Subject - Odissi Dance  
Maximum Marks- 30

General instructions:

- Please check that this question paper contains 8 questions.
- Please write down the serial Number of the question before attempting it.

1. Complete the following sentences. (Attempt any five question, each question carries one mark)

- a) Singers sing Alapa to give the identification of pallavi before singing \_\_\_\_\_.
- b) Pallavi is the soft and \_\_\_\_\_ department of odissi dance.
- c) Preliminarily odissi dancers move their heel head & neck keeping apace at par in foot \_\_\_\_\_.
- d) Chhau dance found in three styles named often the \_\_\_\_\_ where they are performed.
- e) The technique of the Chhau dance stems from the \_\_\_\_\_ System of exercise.
- f) A theoretical treatise an ancient Indian dramaturgy and histrionics especially \_\_\_\_\_ theatre.
- g) After \_\_\_\_\_ age, it is accepted that the NatyaShastra written by Bharat Muni is the oldest among the books written in Sanskrit in India.

2. State whether the following are true or false: (Attempt any five question, each question carries one mark)

- a) Guru Kelucharan Mohapatra was the adopted son.
- b) Guru Pankaj Charan Das was the first winner of Padma Vibhushan Award from the state of Odisha.
- c) Pathara Akhada run by Mohan Charan Mohapatra.
- d) Indrani Rahman presented an Odissi dance demonstration choreographed by Guru Deba Prasad Das in the year 1958.
- e) Tandu or Nandi of Lord Shiva's army.
- f) Nandikeswar had deep knowledge of Natya Kala.
- g) Abhinaya Chandrika is an authoritative scripture of Odissi dance.

3. Match the following pairs correctly:

[0.5X10=5]

- |                |   |                 |
|----------------|---|-----------------|
| a) Nritta      | - | Bhadrak         |
| b) Nritya      | - | RavanChhaya     |
| c) Chhurita    | - | Shanta Rasa     |
| d) Natya       | - | Fear            |
| e) Laya        | - | Performing Arts |
| f) Rasa        | - | Three types     |
| g) Terror      | - | Nata            |
| h) Tranquility | - | Jaubatta        |
| i) Angul       | - | Two parts       |
| j) MugalTamsa  | - | Three parts     |

4. Write the definition of any two of the following.

[2]

- (a) Vibhag
- (b) Bisama
- (c) Bikata
- (d) Laghu

5. Write the definition of any one of the following.

[2]

- (a) Shringara Rasa
- (b) Karuna Rasa

6. Attempt any one question:

[3]

- (a) Definition of Pallavi.
- (b) Angika Abhinaya.

7. State the difference between the following terms:

[3]

- (a) Nritta and Nritya
- (b) Vachika Abhinaya and Aharya Abhinaya

8. Attempt any one question:

[5]

- (a) What do you know about basic overview of the broad areas covered in the Natyashastra.
  - (b) Briefly describe Guru Dev Prasad Das life history.
  - (c) Briefly describe about Odissi dance.
-





**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

**Class - XII**  
**Time - 3 Hours**

**Subject - Physical Education**  
**Maximum Marks- 70**

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**General Instructions:**

- ❖ The question paper contains 30 questions and all are compulsory.
  - ❖ Question 1 to 12 carry 1 mark each.
  - ❖ Question 13 to 16 carry 2 marks each and shall not exceed 40-60 words.
  - ❖ Question 17 to 26 carry 3 marks each and shall not exceed 80-100 words.
  - ❖ Question 27 to 30 carry 5 marks each and shall not exceed 150-200 words.
- 

1. Daily requirement of vitamin A is approximately: [1]  
a) 3 mg                      b) 4 mg                      c) 1 mg                      d) 2 mg
2. Fullerton Functional Fitness Test is also known as [1]  
a) Rikli Test                      b) Jones Test  
c) Senior Citizen Fitness Test                      d) None of these
3. It is a method in which strong teams are selected to keep them at proper places in fixture. \_\_\_\_\_ [1]
4. The law of acceleration is also known as \_\_\_\_\_ [1]
5. In which postural deformity the knees rub together while walking? [1]

**OR**

Given below are the two statements labeled Assertion (A) and Reason (R)  
Assertion (A): Lordosis is abnormal curvature in lumber region of the spine.

Reason (R): Medical name for Lordosis is Genu Valgum.

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

- 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.
6. Define Static Equilibrium? [1]
  7. What is the meaning of word 'Ustra' in Ustrasana? [1]
- OR**
- What is the meaning of word 'Kati' in Katichakrasana?
8. Which one of the following is not the function of sports management? [1]  
a) Planning                      b) Running                      c) Controlling                      d) Organising



24. Write a short notes on : [3]  
a) Vitamin B1  
b) Vitamin B2  
c) Vitamin B3
25. Write the procedure of Flamingo Balance Test? [3]
26. Discuss the principles of Equilibrium in sports activities in detail? [3]
27. Define Management? Explain in detail the functions of Sports Events Management. [5]
28. Define deformities related to legs and list their causes and precautions. [5]  
**OR**  
Define spinal curvature deformities and list their causes and precaution.
29. Explain the procedure, benefits and contraindications of ArdhaMatsyendrasana. [5]
30. Explain the procedure of push up for boys and partial curl up in detail. [5]  
**OR**  
Explain Back Scratch Test and Sit and Reach Test in detail.
-



# DELHI PUBLIC SCHOOL

## SAIL TOWNSHIP, RANCHI

### HALF YEARLY EXAMINATION (2022-23)

Class - XII  
Time - 3 Hours

Subject - Physics  
Maximum Marks- 70

#### General Instructions: -

Read the following instructions very carefully and strictly follow them.

1. There are 33 questions in the question paper. All questions are compulsory.
2. This question paper comprises five sections - A, B, C, D, and E.
3. Section A contains **ten** very short answer questions and **four** Assertion-Reasoning MCQs of **1** mark each.
4. Section B has **two** Case based questions of **4** marks each
5. Section C contains **nine** short answer questions of **2** marks each.
6. Section D contains **five** short answer questions of **3** marks each.
7. Section E contains **three** long answer questions of **5** marks each.
8. There is no overall choice in the question paper. However, internal choice has been provided. You have to attempt only one of the choices in such questions.

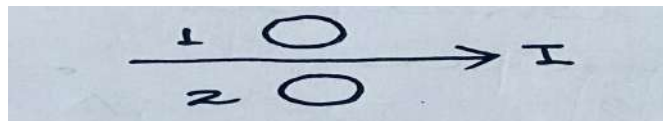
#### SECTION A

1. Plot a graph showing the variation of current density ( $j$ ) with the electric field ( $E$ ) for a conductor. What does the slope of this graph represent? [1]
2. The electric potential  $V$  at any point  $O(x, y, z)$  all in metre) in space is given by  $V=4x^2$  volt. What will be the electric field at the point  $(1\text{m}, 0\text{m}, 2\text{m})$  in  $\text{V/m}$ ? [1]
3. The susceptibility of a magnetic material is  $-4.2 \times 10^{-6}$ . Identify the material. If this type of material is subjected to magnetic lines of forces, show the behaviour of the field lines diagrammatically. [1]

OR

How does the (i) pole strength and (ii) magnetic dipole moment of each part of a bar magnet change, if it is cut into two equal pieces along its length?

4. What is the direction of induced current (clock wise/anti clock wise) in the metal rings 1 and 2 when current  $I$  in the wire is increasing steadily? [1]



OR

A coil of self-inductance  $L$  is connected in series with a bulb  $B$  and a.c. source. Does the brightness of the bulb increase, decrease or remain the same, when an iron rod is inserted in the coil?

5. A charge  $Q$  is divided into two parts, one of which is  $q$ . If the Coulombian repulsion between them, when they are placed at a certain distance, is to be maximum, what will be the ratio of  $Q : q$ ? [1]
6. How does the speed of light in glass change when  
 (i) wavelength is increased ?  
 (ii) intensity of light is increased? [1]

OR

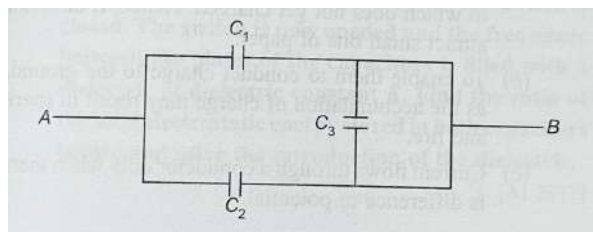
Name the phenomenon on which Optical fibre communication is based. Mention one condition required for this phenomenon to occur.

7. A wire of a certain resistance  $R$  is uniformly stretched so that its area decreases by a factor  $n$ . Calculate its new resistance. [1]
8. Define Intensity of magnetisation. Give its S.I. unit. [1]

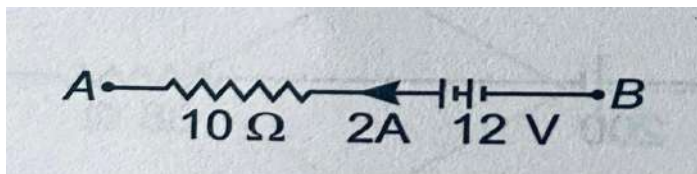
OR

Write the relationship between the magnetic susceptibility and relative permeability of a magnetic material .

9. What is the net capacitance between A and B of this combination? [1]



10. In the figure, what is the potential difference between A and B? [1]



For Question no. 11,12, 13 and 14 two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answers to these questions from the codes (a) (b), (c) and (d) as given below:

- (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) Both A and R are false.

11. **ASSERTION (A)** : In water , the value of magnetic field decreases.

**REASON (R)** : Water is a paramagnetic substance.

[1]

12. **ASSERTION (A)** : On moving through a distance, which is two times of the initial distance, away from an infinitely long, straight, uniformly charged wire, the electric field reduces to one - third of the initial value.

**REASON (R)**: The electric field is inversely proportional to the distance from an infinitely long, straight uniformly charged wire. [1]

13. **ASSERTION (A)**: Kirchoff's loop rule indicates that the electric field is conservative.

**REASON (R)**: Potential difference between two points in a circuit does not depend upon the path. [1]

14. **ASSERTION (A)**: A proton and an  $\alpha$  - particle having the same kinetic energy are moving in circular paths in a uniform magnetic field. The radii of their circular paths are equal.

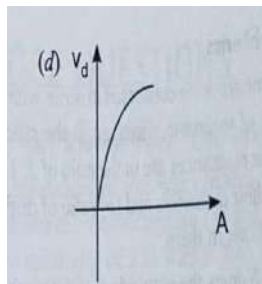
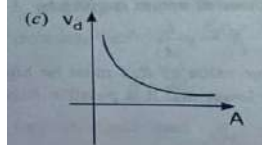
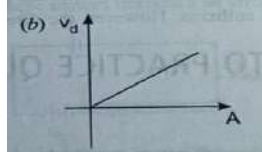
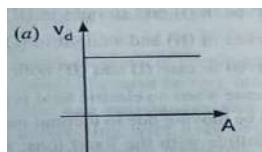
**REASON (R)**: Any two charged particles having equal kinetic energy and entering a region of uniform magnetic field  $B$ , in a direction perpendicular to  $B$ , will describe circular trajectories of equal radii. [1]

## SECTION B

**Q. No 15 and Q. No 16 are Case- Based Questions and are compulsory. Attempt any four sub- parts from each question. Each subpart carries one mark.**

15. When a conductor does not have a current passing through it, its conduction electrons move randomly, with no net motion in any direction. When the conductor is subjected to a potential difference, they tend to drift with the drift speed  $v_d$ . The drift speed is very less as compared to speeds in random thermal motion. [4]

(i) A steady current  $I$  flows through a metallic conductor whose area of cross-section ( $A$ ) increases continuously from one end to the other. The drift velocity of free electron ( $v_d$ ) as a function of  $A$  will be:



- (ii) If Ohm's law is obeyed, then what is the relation between the electric field (E) and drift speed ( $v_d$ )?
- (a)  $(v_d) \propto E^2$   
 (b)  $(v_d) \propto E$   
 (c)  $(v_d) \propto \frac{E}{2}$   
 (d)  $(v_d) \propto \sqrt{E}$
- (iii) The relation of drift speed ( $v_d$ ) with the mean relaxation time ( $\tau$ ) is :
- (a)  $\frac{eEm}{\tau}$   
 (b)  $\frac{eE\tau}{m}$   
 (c)  $\frac{e\tau m}{E}$   
 (d)  $\frac{m}{eE\tau}$
- (iv) Two nichrome wires of equal length but having radii in the ratio 1:3 are connected in series across an electric cell. The drift velocities of free electrons through them will be in the ratio of
- (a) 3:1  
 (b) 1:3  
 (c) 4:9  
 (d) 9:1
- (v) The path of electrons inside a conductor (i) in the absence (ii) in the presence of electric field is
- (a) straight line in case (i) and (ii)  
 (b) curved in (i) and straight in (ii)  
 (c) curved in (ii) and straight in (i)  
 (d) curved in case (i) and (ii) both

16. An interesting characteristic of the series LCR circuit is the phenomenon of resonance. The phenomenon of resonance is common among systems that have a tendency to oscillate at a particular frequency. This frequency is called the system's natural frequency. If such a system is driven by an energy source of a frequency that is near the natural frequency, the amplitude of the oscillation is found to be large. Resonant circuits have a variety of applications, for example, in the tuning mechanism of a radio or a TV set. The antenna of a radio accepts signals from many broadcasting stations. The signal picked up in the antenna acts as a source in the tuning circuit of the radio, so the circuit can be driven at many frequencies. But to hear one particular radio station, we tune the radio, so that the resonant frequency of the circuit becomes nearly equal to the frequency of the radio signal received.

Now, answer the following questions:

[4]

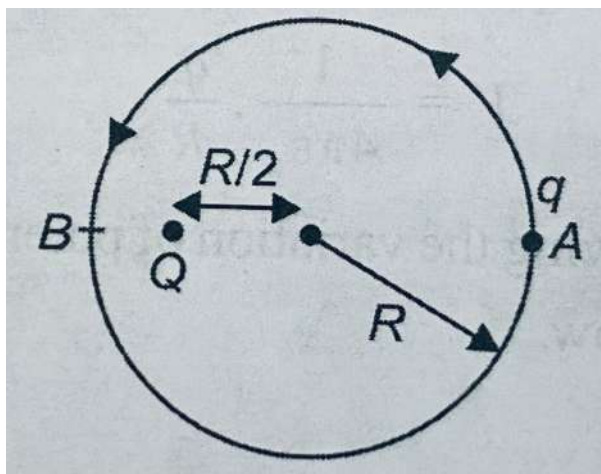
- (i) If the value of C (capacitance) is decreased in a series LCR circuit, then the resonant frequency
- (a) increases.  
 (b) decreases.  
 (c) is not affected.  
 (d) is reduced to zero.

- (ii) At the resonance condition of a series LCR circuit :
- current is minimum
  - current is maximum
  - impedance is maximum
  - none of the above
- (iii) As  $X_L = X_C$  in a series LCR circuit, the impedance is
- purely resistive
  - purely inductive
  - purely capacitive
  - capacitive or inductive
- (iv) The power factor of an LCR series circuit (which is connected to an AC source) at resonance is:
- zero
  - one
  - infinity
  - can't be determined
- (v) The quality factor  $Q$  is defined as
- $Q = \frac{\omega L}{R}$
  - $Q = \frac{R}{\omega C}$
  - $Q = \frac{\omega R}{C}$
  - None of these

### SECTION - C

All questions are compulsory. In case of internal choices, attempt any **one**.

17. There is a point charge  $Q$  at a distance  $\frac{R}{2}$  from the centre of a circle of radius  $R$ . Another point charge  $q$  is to be moved from  $A$  to  $B$ , where  $A$  and  $B$  are two points on the circle diametrically opposite to each other. How much work is done by the electrostatic force exerted by  $Q$  on  $q$  ? [2]

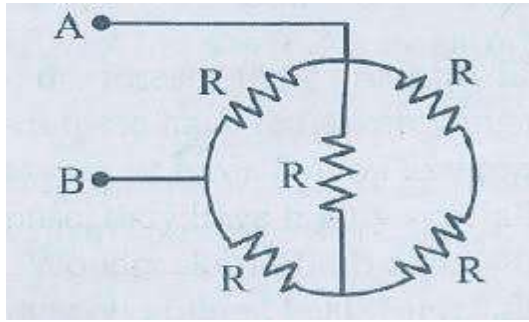


OR

Two positive charges  $Q$  and  $4Q$  are fixed at a distance of 12 cm from each other. Sketch the lines of forces due to this combination and locate the position of neutral points, if any.



18. Find the equivalent resistance between the points A and B shown in the figure. [2]

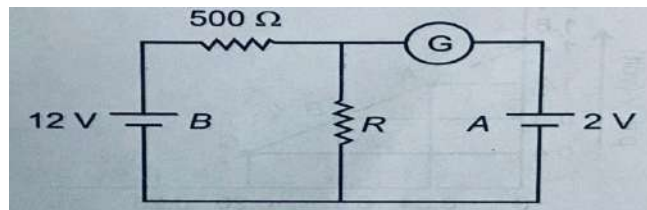


19. A galvanometer coil has a resistance of  $15\ \Omega$  and the meter shows full scale deflection for a current of  $4\text{mA}$ . How can it be converted into an ammeter of range 0 to  $6\text{A}$ ? [2]

OR

A magnetic needle suspended parallel to a magnetic field requires  $\sqrt{3}\text{ J}$  of work to turn it through  $60^\circ$ . Find the torque needed to maintain the needle in the latter position.

20. Define critical angle. Deduce the relation between absolute refractive index of a medium with the critical angle for the given medium. [2]
21. In the circuit, the galvanometer G gives zero deflection. If the batteries A and B have negligible internal resistance, find the value of the resistor R. [2]



22. A capacitor of capacitance  $C$  is charged to  $V$  volts by a battery. After some time, the battery is disconnected and the distance between the plates is doubled. Now a slab of dielectric constant  $k$  ( $1 < k < 2$ ), is introduced to fill the space between the plates. How will the following be affected:  
 (a) the electric field between the plates of the capacitor  
 (b) the energy stored in the capacitor?  
 Justify your answers. [2]

23. Obtain the resonant frequency  $\omega_r$  of a series LCR circuit with  $L = 2\text{H}$ ,  $C = 32\mu\text{F}$  and  $R = 10\Omega$ . What is the Q - value of this circuit? [2]

OR

Draw a phasor diagram for a series LCR circuit where  $V_L > V_C$ , when it is connected to an AC source and obtain the expression for the impedance of the circuit.

24. Using Ampere's Circuital law, derive an expression for the magnetic field ( $B$ ) due to a current carrying air-cored solenoid. Also show the graphical variation of  $B$  with the distance from the centre of the solenoid along the axial line. [2]
25. Derive an expression for the energy stored in an inductor. [2]

## SECTION - D

All questions are compulsory. In case of internal choices, attempt any **one**.

26. With the help of a relevant ray diagram, deduce the mirror formula for a spherical mirror. [3]
27. Derive an expression for the capacitance of a parallel plate capacitor (using a relevant diagram), when a dielectric slab of thickness less than the plate separation, is placed between the plates. [3]

OR

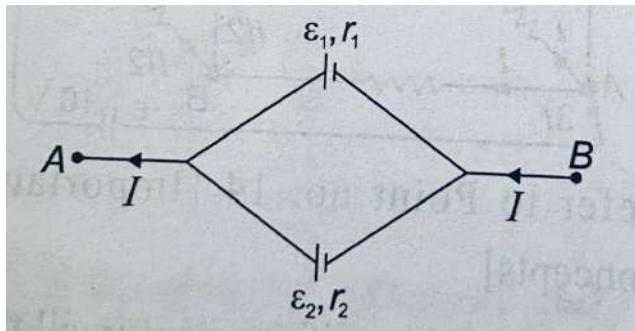
Two metal spheres A and B of radius  $r$  and  $2r$ , whose centres are separated by a distance of  $6r$ , are given charge  $Q$  each and are at potentials  $V_1$  and  $V_2$ . Find the ratio  $\frac{V_1}{V_2}$ . These spheres are connected to each other with the help of a connecting wire. Keeping the separation unchanged, what is the amount of charge that will flow through the wire?

28. Define root mean square value of alternating current ( $I_{rms}$ ). Derive an expression for it. [3]

OR

State the principle of an a.c. generator. Derive an expression for the instantaneous value of emf.

29. Two cells of EMFs  $E_1$  and  $E_2$  and internal resistance  $r_1$  and  $r_2$  respectively are connected in parallel as shown. [3]



Deduce expressions for:

- (i) the equivalent EMF  
(ii) the equivalent resistance  
of the combination.
30. Derive an expression for the force per unit length acting on two infinitely long, straight current carrying conductors, carrying current in the same direction and placed parallel to each other in the vacuum. Also mention the nature of the forces. Hence define one ampere. [3]

## SECTION - E

All questions are compulsory. In case of internal choices, attempt any **one**.

31. (a) Using Gauss' theorem and a relevant diagram, derive an expression for the electric field due to a uniformly charged, infinitely large, thin plane sheet.
- (b) An infinitely large thin plane sheet has a uniform surface charge density  $+\sigma$ . Obtain an expression for the amount of work done in bringing a point charge ( $q$ ) from infinity to a point,  $r$  distance away in front of the charged plane sheet. [5]

**OR**

- (a) Derive an expression for torque acting on an electric dipole placed inside a uniform electric field. Hence, define 'electric dipole moment'.
- (b) An electric dipole of length 4 cm, when placed with its axis making an angle of  $60^\circ$  with a uniform electric field experiences a torque of  $4\sqrt{3}$  Nm. Calculate the potential energy of the dipole if the charge on it is  $\pm 8\text{nC}$ .
32. (a) Draw a labelled diagram of a Moving coil galvanometer. State the principle on which the device works. Derive an expression for its current sensitivity.
- (b) Why are (i) concave pole pieces and (ii) phosphor bronze strip used in the moving coil galvanometer? [5]

**OR**

- (a) Obtain an expression for the magnetic moment of an electron, moving with a speed  $v$ , in a circular orbit of radius  $r$ . How does the magnetic moment change when
- (i) the frequency of revolution is doubled
- (ii) the orbital radius is halved?
- (b) An element  $\vec{\Delta l} = \Delta x \hat{i}$  is placed at the origin and carries a current  $I = 10$  A. What is the magnitude and direction of the magnetic field on the Y axis at a distance of 0.5 m? (Take  $\Delta x = 1$  cm)
33. (a) What is meant by Self inductance ( $L$ ) of a coil? Derive an expression for the Self inductance of a coil.
- (b) The currents flowing in the two coils of self inductance  $L_1 = 16$  mH and  $L_2 = 12$  mH are increasing at the same rate. If the power supplied to the two coils are equal, find the ratio of (i) the induced voltages and (ii) the energies stored in the two coils at a given instant. [5]

**OR**

- (a) Draw a labelled diagram of a transformer. State its principle and briefly explain its working.
- (b) Calculate the current drawn by the primary of the transformer which steps down 200 V to 20 V to operate a device of resistance  $20 \Omega$ . Assume the efficiency of the transformer to be 80%.



**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2022-23)**

Class - XII  
Time - 3 Hours

Subject - Political Science  
Maximum Marks- 80

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**General Instructions:**

**All questions are compulsory.**

Question 1-15 carry 1 mark each, answer to one mark question.

Questions 16-21 carry 2 marks each, answer to two marks question should exceed 40 words.

Questions 22-26 carry 4 marks each, answer to four marks question should not exceed 100 words.

Questions 27-29 carry 6 marks each, answer to six marks question should not exceed 200 words

Questions 30-32 carry 5 marks each and are source based questions.

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1. Who said "Frankly....My impression ( of Zhou Enlai ) was very favorable ..... the Chinese premier is , I believe a good type of Man & Trustworthy" ?
  - a. C.Rajagopalchari
  - b. K.M Munshi
  - c. V.P.S Menon
  - d. Jawaharlal Nehru
2. Which of the following is not the founding member of ASEAN?
  - a. Indonesia
  - b. Malaysia
  - c. Vietnam
  - d. Singapore
3. Which US official made secret visit to China via Pakistan in July 1971?
  - a. John F. Kennedy
  - b. Richard Nixon
  - c. Henry Kissinger
  - d. C. Gorge Marshall

4. "Tomorrow we shall be free from the slavery of the British domination, but at midnight India will be partitioned. Tomorrow thus be a day of rejoicing as well as mourning" Who spoke these words?
- Jawaharlal Nehru
  - Amrita Pritam
  - Khan Abdul Gaffar Khan
  - Mahatma Gandhi

5. What was Bombay Plan?

OR

What was White revolution ?

6. Who proposed 'Asian Collective Security System'?
- Boris Yeltsin
  - Stalin
  - Leonid Brezhnev
  - Vladimir Lenin
7. When did European Union received Nobel Peace Prize?
- 2020
  - 2012
  - 2002
  - 2013
8. What is the Capital of Uzbekistan ?
- Tashkent
  - Nur-Sultan
  - Ashgabat
  - Baku
9. Who was the director of "Haqeeqat"?
10. Arrange the following into chronological order .
- European Economic community
  - Organization for European economic co-operation
  - Council of Europe
  - European Coal & Steel community
- ii , i , iii , iv
  - iv , i , iii , ii
  - ii , iii , iv , i
  - iii , i , iv , iii

11. Vidarbha movement happened in which state?
  - a. Andhra Pradesh
  - b. Uttar Pradesh
  - c. West Bengal
  - d. Maharashtra
12. After the Sino-Indo War 1962 , which state granted statehood?
  - a. Manipur
  - b. Meghalaya
  - c. Nagaland
  - d. Tripura
13. According to UNDP , Human Development Report 2018 , among which of the following country have the highest HDI ranking as well as life expectancy ?
  - a. India
  - b. Sri Lanka
  - c. Bhutan
  - d. Bangladesh
14. Which along the following is not a part of Indian territory?
  - a. Along
  - b. Tawang
  - c. Thimphu
  - d. Dong
15. Who wrote "Economy of Permanence"
16. Explain 'Perestroika' & 'Glasnost'
17. What can you tell about the status of Israel In world order?
18. What is Left Wing & Right Wing ?
19. What is BRICS? Mention one motive behind its formation.
20. Discuss areas of conflicts and two significant agreements signed between India and Pakistan?

OR

Why is Tibet considered to be a major issue of tension and conflict between China & India ?

21. When was NITI Aayog Formed? Mention any three objectives of the same.
22. What is Panchsheel ? Mention any four points to India's Foreign Policy.
23. What was the after-effect of Sino-Indo War ?

OR

Why India was considered as a GODFATHER for every new decolonized country ?

24. Analyze the relationship of India with Russia .

25. Mention the major economic events of China from 1972 to 2001 ?

OR

Mention and explain the ASEAN community .

26. Why do we trace the importance of NAM during the times that it was formed ? How NAM is still relevant?

27. How we can say the European Union possess Economic , Political Diplomatic and Military influence throughout the world ?

28. What were the aftereffects of Shock Therapy? Explain what is CIS ?

29. Wars and Peace with Pakistan . Elaborate .

OR

Peace and Conflict with China . Elaborate .



30. Answer the following :-

a. Why are only 12 stars on the flag ?

[2]

b. Mention any five new members of European Union .

[1]

c. Why there was a need for Marshall Plan

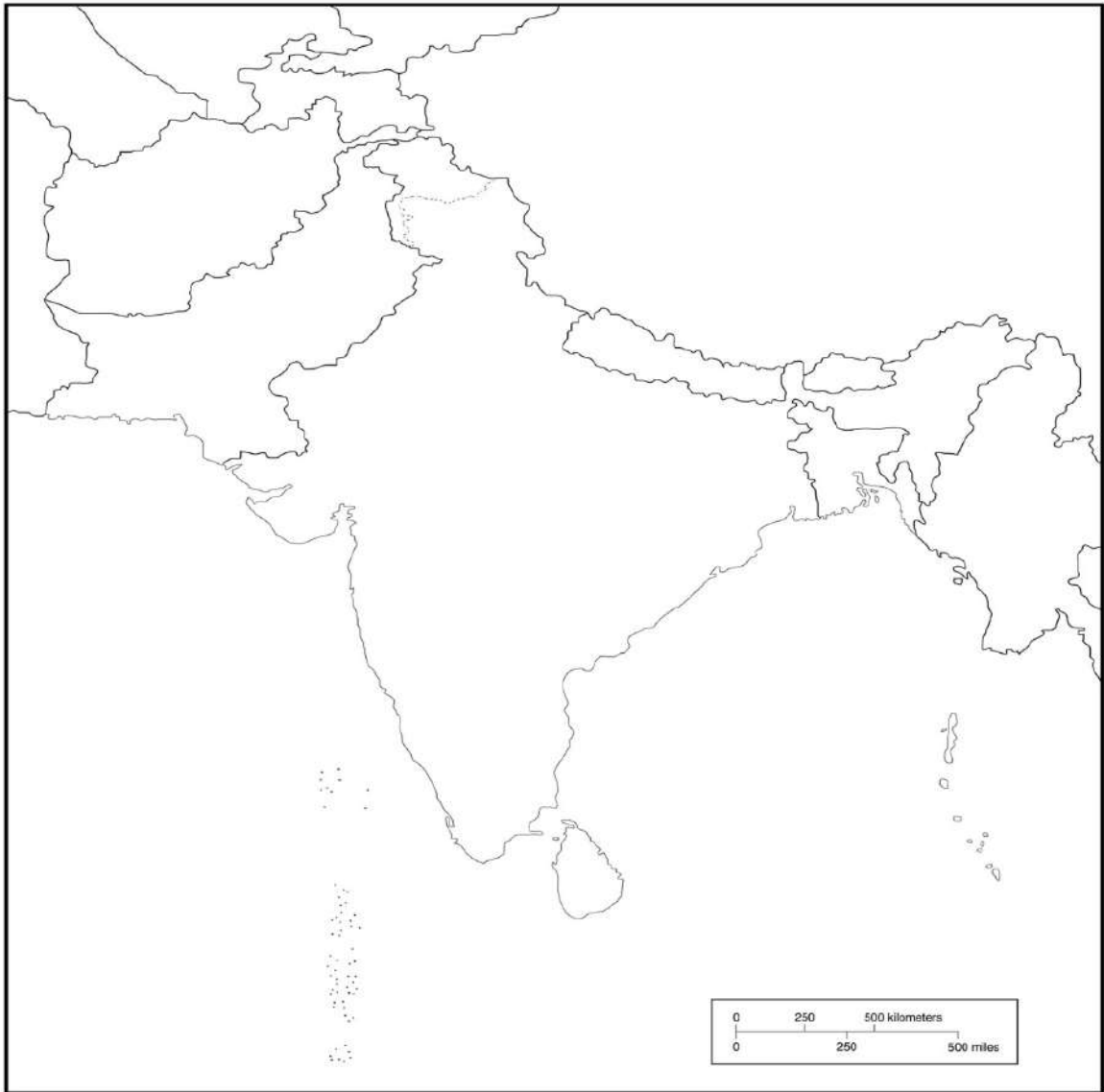
[2]

OR



- a. When and where did the latest ASEAN summit held ? [2]
- b. Mention 3 of its new members . [1]
- c. What does '10 stalks of paddy' represents ? [2]
31. Answer the following and locate on the map :-
- a. Awami League is responsible for its formation
- b. Monarchy still exists here
- c. Chagai hills are at this place
- d. A landlocked country
- e. Operation Cactus was carried out by IAF and India Navy here
32. " To the early years of Independence, two contradictory tendencies were already well advanced inside the Congress party. On the one hand the national party executive endorsed socialist principles of state ownership, regulation and control over key sectors of the economy in order to improve productivity and at the same time curb economic concentration. On the other hand, the national Congress government pursued liberal economic policies and incentives to private investment that was justified in terms of the sole criterion of achieving maximum increase in production. " - FRANCINE FRANKEL
- a. What is the contradiction that the author is talking about? What would be the political implications of a contradiction like this? [2]
- b. If the author is correct, why is it that the Congress was pursuing this policy? Was it related to the nature of the opposition parties? [2]
- c. Was there also a contradiction between the central leadership of the Congress party and its State level leaders? [1]
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**DELHI PUBLIC SCHOOL**  
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**HALF YEARLY EXAMINATION (2022-23)**

Class - XII  
Time - 3 Hours

Subject - Sociology  
Maximum Marks- 80

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**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. 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. A falling dependency ratio can be a source of economic growth and prosperity. This is sometimes referred to as \_\_\_\_\_.
  - A. Benefit dividend
  - B. Prosperity dividend
  - C. Demographic dividend
  - D. None of these
2. Malthus believed that famines and disease are the nature's way of dealing with the imbalance between food supply and increasing population. This he referred to as \_\_\_\_\_.
  - A. Preventive checks.
  - B. Positive checks.
  - C. Demographic checks.
  - D. Voluntary checks.
3. Citizen's of the state like Manipur or Nagaland don't have the same citizen rights as other citizens of India, because their states have been declared as.....
  - A. Outland areas.
  - B. Disturbed area.
  - C. Crucial area.
  - D. None of these

4. Name the person who founded 'Satya Shodhak Samaj'
  - A. Dr.BR Ambedkar
  - B. Alluri Sitaram Raju
  - C. JotibaPhule
  - D. Periyar
5. The 1901 census was held under the discretion of .....
  - A. Herbert Risley
  - B. M. N. Srinivas
  - C. Jyotheedas
  - D. Joti rao Govindrao Phule
6. Example of physical- racial tribes is/are .....
  - A. Negrito
  - B. Austroloid
  - C. Mongoloid
  - D. All of these
7. The ways in which individuals may be cut off from full involvement in the wider society is called as----
  - A. Social stratification
  - B. Social exclusion
  - C. Social equality
  - D. Social inclusion
8. The Report of the State Reorganisation Commission (SRC) was implemented on .....
  - A. 1st October, 1956
  - B. 1st November,1956
  - C. 1st September,1956
  - D. 1st December, 1956
9. Apartheid is a policy of separation of the races. In which year it became a law?
  - A. 1948
  - B. 1945
  - C. 1944
  - D. 1949
10. Our parliamentary, legal and educational system are based on which model?
  - A. American model.
  - B. British model.
  - C. Indigenous model
  - D. French model
11. The emergence of machine production based on the inanimate power resources like steam and electricity is known as.....
  - A. Globalisation.
  - B. Capitalism.
  - C. Imperialism.
  - D. Industrialization.

12. The Planning Commission was set-up in the Year....  
A. 1940  
B. 1945  
C. 1950  
D. 1952
13. Who did Marathi translation of Vidyasagar's book 'Indu Prakash' ?  
A. Vishnu Shashtri.  
B. Pandita Ramabai.  
C. Keshav Chandra Sen  
D. Veersalingam.
14. Who was known as the 'Father of Indian Renaissance' ?  
A. Sir Syed Ahmed Khan  
B. Jotiba Phule  
C. Raja Ravi Verma  
D. Raja Ram Mohun Roy
15. Name the sociologist who coined the term 'footloose labour' ?  
A. Verrier Elwin  
B. Jan Bremen  
C. Auguste Comte  
D. Herbert Spencer
16. .... is essentially the government's declared minimum procuring prices for agricultural products for given year.  
A. Support Price  
B. Subsidies  
C. Wages  
D. None of these

### SECTION -B

17. State the importance of demographic data.
18. What is dependency ratio?
19. What do you mean by Dominant caste?

**OR**

Give two examples of dominant land owning groups.

20. What is the meaning of sanskritisation?
21. What are the permanent traits of tribes?
22. What are the most powerful instruments for the formation of ethno-national  
Identify?

**OR**

What are the two significant features of 'ascriptive' identity?

23. Mention any two structural changes brought about by colonialism.
24. What were the effects of British industrialisation on Indian industries?
25. What were the two of the issues or themes taken up by the social reform movements of the 19<sup>th</sup> and 20<sup>th</sup> centuries?

### SECTION- C

26. Read the given passage and answer the questions that follow the passage.

To diehards who have developed a kind of fanaticism against minority protection I would like to say two things. One is that minorities are an explosive force which, if erupts, can blow up the whole fabric of the state. The history of Europe bears ample and appalling testimony to the fact. The other is that the minorities in India have agreed to place their existence in the hands of the majority. In the history of negotiations for preventing the partition of Ireland, Redmond said to Carson "Ask for only safeguard you like for the Protestant minority but let us have a United Ireland." Carson's reply was "damn your safeguards, we don't want to be ruled by you." No minority in India has taken this stand.

1. Who has argued this?
  - A. Jyotirao Phule
  - B. B R Ambedkar
  - C. Mahatma Gandhi
  - D. Veersalingam
2. The notion of minority groups is more than a merely numerical distinction. It generally implies a relatively small but also -----groups.
  - A. Excluded
  - B. Included
  - C. Accepted
  - D. None of these
3. Religious or cultural minorities need special protection because of the demographic dominance of the majority. This protection can be assured through-----.
  - A. Economic equality
  - B. Political representation
  - C. Cultural diversity
  - D. None of these
4. "Hindus constitute an overwhelming majority in India." This can be misleading because Hindus are not a-----group.
  - A. Hierarchical
  - B. Divided
  - C. Homogenous
  - D. Diverse

27. Read the given paragraph and answer the questions that follow the passage.

In India labels such as 'disability', 'handicap', 'crippled', 'blind' and 'deaf' are used synonymously. Often these terms are hurled at people as insult. In a culture that looks up to 'bodily perfection', all deviations from the perfect signify abnormality, defect and distortion. Labels such as bechara (poor thing) accentuate the victim status for the disabled person. The root of such attitude lie in the cultural conception that views an impaired body as a result of fate. Destiny is seen as a culprit, and a disabled people are the victims. The common perception views disability as retribution for past Karma (actions) from which there can be no reprieve.

1. Term such as 'Mentally challenged' came to replace the more trite negative terms such as---
  - A. Retarded
  - B. Lamé
  - C. Hump
  - D. None of these
2. The differently-able are not disabled only because they are physically or mentally impaired but also because ----
  - A. It is retribution of past Karma
  - B. Society is build in the manner that does not cater to their needs.
  - C. A result of their fate
  - D. Destiny is the culprit
3. The social construction of disability has another dimension. There is a close relationship between disability and -----
  - A. Poverty
  - B. Destiny
  - C. Fate
  - D. Karma
4. Here are some common features central to the public perception of disability all over the world----Choose the incorrect option;
  - A. Disability is understood as a biological given.
  - B. The disabled person is seen as victim.
  - C. Disability is supposed to be linked with the disabled individual's self perception.
  - D. The very idea of disability suggests that they are not in need of help.

28. Explain the regional variations of low child sex-ratio in India.

29. What is the role of ideas of separation and hierarchy in the caste system?

**OR**

Examine the role of state's initiatives to address caste and tribe discrimination.

30. What is community identity and how is it formed?

31. How is colonialism different from earlier forms of conquests? In what ways did it affect Indian society?

32. Mention the loopholes found in the Implementation of the Land Ceiling Act.

**OR**

What are the major positivities and negativities of contract farming ?

**SECTION - D**

33. What are the major issues of concerns for Adivasis today ?

**OR**

What are the major issues taken up by the Women's movement over its history?

34. Explain Green Revolution and the social consequences associated with it.

35. Read the given paragraph and answer the following questions-

**WAYS OF LIVING**

Devaki recalls that when she was small, in her house boiled eggs were eaten in eggcups and her mother would make the porridge and serve it separately on the table with the hot milk and sugar, to be mixed in each person's bowl. This was distinctly different from other households. Devaki says, where boiled eggs were not eaten in eggcups and where the porridge, milk and sugar were all mixed together, cooked in a pan and then served..... She remembers asking her mother why they ate porridge like that and her mother saying that this was the way they used to eat porridge in the estate. [Abraham 2006:146]

A. Identify and define the type of cultural change depicted in the paragraph [2]

B. Explain the cultural changes took place under British Rule [4]