Class:-XII   **Subject:- Physics**
Time- 3 Hrs.   **M.M.-70**

General Instructions:-

   i. *All questions are compulsory. There are 27 questions in all.*
   ii. *This question paper has 4 sections: Section A, Section B, Section C and Section D.*
   iii. *Section A has five questions of 1 mark each*
      Section B has seven questions of 2 marks each.
      Section C has twelve questions of 3 marks each.
      Section D has three questions of 5 marks each.
   iv. *There is no overall choice. However internal choices have been provided in two questions of 1 mark, two questions of 2 marks, four questions of 3 marks and three questions of 5 marks weightage. You have to attempt only one of the choices in such questions.*

Section-A

1. In a series LCR circuit the voltage across an inductor, a capacitor and a resistor are 20V, 20V and 40 V respectively. What is the phase difference between the applied voltage and the current in the circuit? [1]

2. Two materials silicon and copper are cooled from 300K to 60 K. What will the effect on their resistivity? [1]

OR

A 9V battery is connected in series with a resistor. The terminal potential difference across the battery is found to be 8V. If current flowing in the circuit is 5A, what is the internal resistance of the battery? [1]

3. How does the power of a convex lens vary if the incident red light is replaced by violet light? [1]

OR

Name the electromagnetic wave that is widely used as a diagnostic tool in medicine. [1]

4. How does a diamagnetic material behave when kept in an external non uniform magnetic field? [1]

5. A deutron and a proton have same kinetic energy. Which one of the two has larger de Broglie wavelength and why? [1]

Section – B

6. (a) Two nuclei have mass numbers in the ratio 1:2. What is the ratio of their nuclear density?

    (b) Why is it found experimentally difficult to detect neutrinos in β decay? [2]

P.T.O

7. Two parallel plate capacitors X and Y have same area of plates and same plate separation. X has air between the plates and Y contains a di-electric medium of $\epsilon_r = 4$ [2]
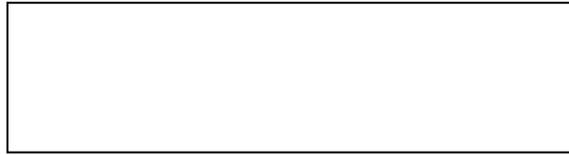
(i) Calculate capacitance of each capacitor if equivalent capacitance of the combination is $4\mu F$.

(ii) Calculate the potential difference across capacitors X and Y respectively.

8. A radiation having wavelength 1000A° falls on a metal surface for which work function is 4eV. What potential difference in required to stop the fastest photo-electron emitted from the metal surface? [2]

9. A narrow slit is illuminated by a parallel beam of monochromatic light of wavelength 6000A° and the angular width of the central maximum in the resulting diffraction pattern is measured. When the slit is illuminated by light of wavelength λ', the angular width decreases by 30%. Calculate the value of λ'. [2]

OR

A ray of light passing from air through an equilateral glass prism undergoes minimum deviation when the angle of incidence is $3/4^{th}$ of the angle of prism. Calculate the speed of light inside the prism. [2]

10. Determine the distance of closest approach when an α particle of kinetic energy 4.5 MeV strikes a nucleus of Z=80 , stops and reverses its direction? [2]

OR

The ground state energy of hydrogen atom is – 13.6 eV. What is the kinetic and potential energies of the electron in the second excited state? [2]

11. What are universal gates? How can AND gate be realized using an appropriate combination of NOR gates? [2]

12. State briefly why do the electromagnetic waves with a frequency range from a few MHz upto 30 MHz can reflect back to earth. What happens when frequency range exceed this limit? [2]

Section – C

13. An electric dipole of dipole moment $\vec{p}$ is placed in uniform electric field $\vec{E}$. Write the expression for the torque τ experienced by the dipole. Identify two pairs of perpendicular vectors in this expression. Show diagrammatically the orientation of the dipole in the field for which torque is
(i) maximum   (ii) half of maximum value   (iii) zero . [3]

14. Two point charges of - 9μC and + 25 μC are placed at a distance of 8 cm in vacuum. Where on the line joining the charges electric field intensity is zero? Find the distance of the point from the charge of - 9 μC where electric field intensity is zero. [3]

15. State the principle of working of a potentiometer. Write two factors by which sensitivity of a potentiometer can be increased. Why is a potentiometer preferred over a voltmeter for measuring emf of a cell. [3]

16. (a) What is the value of current flowing through the 10 Ω resistor in the given circuit

    (b) 8 cells of each of emf 1.5 V and internal resistance 0.2 Ω are connected in series. By mistake two cells have been connected with the reversed terminals. An external resistor of 1.4 Ω is also connected in the circuit. Find the value of current flowing through external resistor. [3]

17. Two small circular identical loops marked (1) and (2) carrying equal currents are placed with their geometrical axes perpendicular to each other as shown in the figure. Find the magnitude and direction of net magnetic field produced at point O. [3]

(1)
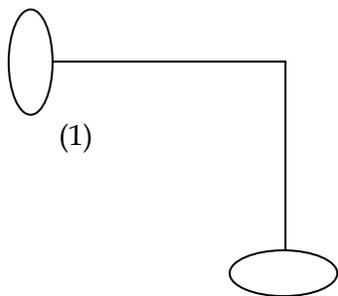
OR

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

(b) An electron after being accelerated through a potential difference of 10^4 V enters in a uniform magnetic field of 0.04T perpendicular to the direction of magnetic field. Calculate the radius of curvature of its trajectory. [mass of electron = 9.1 x 10^{31} kg.] [3]

18. (a) Write Faraday's laws of electromagnetic induction.

(b) A conducting rod of length L with one end pivoted, is rotated with a uniform angular speed ω in a plane, normal to a uniform magnetic field B. Deduce an expression for emf induced across the ends of this rod. [3]

OR

Derive an expression for mutual inductance of two long co-axial solenoids of same length one wound over the other. [3]

19. An inductor L of reactance X_L is connected in series with a bulb B of resistance R to an ac source. Explain briefly how does the brightness of bulb change when

(i) number of turns of the inductor is reduced

(ii) an iron rod is inserted in the inductor

(iii) a capacitor of reactance $X_C = X_L$ is included in the circuit. [3]

20. Draw a ray diagram to show the formation of real image of the same size as that of the object placed in front of a converging lens. Using this ray diagram establish a relation between u, v and f for this lens, where symbols have their usual meaning. [3]

21. (a) An electromagnetic wave is travelling in a medium with a velocity $\vec{v} = v\hat{i}$.

Draw a sketch showing the propagation of the electromagnetic waves indicating the direction of oscillating electric and magnetic fields.

(b) How are the magnitude of electric and magnetic fields related to the velocity of electromagnetic waves. [3]

22. Draw the ray diagram of a compound microscope when final image is formed at least distance of distinct vision.

How is the resolving power of a microscope affected when

(i) the wavelength of illuminating radiations is decreased?

(ii) the diameter of objective lens is increased? Justify you answer. [3]

OR

How is a wave front defined? Using Huygen's construction draw a figure showing the propagation of a plane waves reflected at the interface of two media. Show that the angle of incidence is equal to angle of reflection. [3]

23. A monochromatic radiation of wavelength 975 A° excites the hydrogen atom from its ground state to higher state. How many different spectral lines are possible in the resulting spectrum? Which transition corresponds to the longest wavelength amongst them? [3]

OR

Draw a graph showing the variation of potential energy between a pair of nucleons a function of their separation. Indicate the regions in which nuclear force is (i) attractive (ii) repulsive. Write two properties of nuclear force. [3]

24. A sinusoidal carrier wave of amplitude A_c and angular frequencies ω_c is modulated in accordance with the sinusoidal information signal of amplitude A_m and angular frequency ω_m. Show that amplitude modulated signal contains three frequencies centred around ω_c. Plot the amplitude versus angular frequency (ω) graph for amplitude modulated signal. [3]

Section-D

25. (a) Derive expression for the force acting per unit length between two long parallel straight current carrying conductors.

(b) Use this expression to define S.I. unit of current.

(c) A long straight wire caries a current I. A proton P travels with a speed v parallel to the wire at a distance d from it in the direction apposite to the current as shown in figure. What is the magnitude and direction of force experienced by the proton? [5]
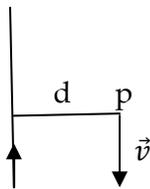
OR

Draw a schematic diagram of a step-up transformer. State its principle of working. Deduce the expression for ratio of secondary to primary voltage in terms of number of turns in the coil.
A power transmission line feeds input power at 2200 volt to a step-down transformer with the primary windings having 3000 turns. Find the no. of turns in the secondary coil of the transformer to get power output at 220 volt. [5]

26. (a) A spherical surface of radius R, separates a rarer and denser medium as shown in figure. Complete the path of incident ray of light showing the formation of a real image. Hence derive a relation connecting object distance, image distance and radius of curvature and refractive indices of the two media.

where $\mu_2 > \mu_1$

Pg-5
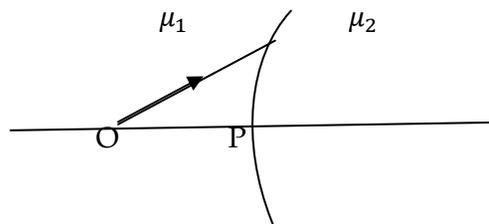
(b) A biconvex lens of refractive index 1.5 having focal length 20cm in air is placed in a medium of refractive index 1.6. Find the focal length of the lens in that medium.   [5]

OR

(a)   There are two sets of apparatus of Young's double slit experiment. In set A, the phase difference between the two waves emanating from the slits does not change with time where as in set B, the phase difference between the two waves from the slits changes rapidly with time. What difference will be observed in the pattern obtained on the screen in the two set up?

(b) Deduce the expression for the resultant intensity in the set up A and B separately, assuming that the waves emanating from the two slits have same amplitude and wavelength.   [5]

27.   Draw a labelled circuit diagram of common emitter amplifier using an npn transistor. Define the term voltage gain and write an expression for it. Explain how the input and output voltages have a phase difference of 180° in common-emitter transistor amplifier.   [5]

OR

(a) Distinguish between an intrinric semiconductor and a p type semiconductor. Give reasons why a p type semiconductor is electrically neutral , though $n_h >> n_e$ in this semiconductor.

(b) How is zener diode fabricated? What causes setting up of a high electric field even for small reverse bias voltage across the junction in zener diode?

   Describe with the help of a circuit diagram, the working of zener diode as voltage regulator.   [5]

****

Class:-XII
Time- 3 Hrs.

Subject:- Chemistry
M.M.- 70

General Instructions:

(i)   All questions are compulsory.
(ii)   Question number 1 to 5 are very short answer questions and carry 1 mark each.
(iii)   Question number 6 to 12 are short answer questions and carry 2 marks each.
(iv)   Question number 13 to 24 are also short answer questions and carry 3 marks each.
(v)   Question number 25 to 27 are long answer questions and carry 5 marks each.
(vi)   Use Log Table if necessary, Use of calculator is not allowed.

---

1.   Liquid 'A' and Liquid 'B' on mixing produce a warm solution, what type of deviation is there according to Raoult's law? [1]

2.   Which of the following is most effective in coagulating positively charged methylene blue sol?
      (i) Na_3PO_4 (ii) $K_4[Fe(CN)_6]$ (iii) Na_2SO_4 [1]

3.   Why is bithional added to soap? [1]

4.   Give the IUPAC name of the following compound. [1]

$$CH_3 - \underset{\underset{CH_3}{|}}{C} = \underset{\underset{Br}{|}}{C} - CH_2\,OH$$

5.   Arrange the following compounds in increasing order of their boiling point.

      Propanol,   Propane ,   Propanal [1]

6.   Copper crystallises with face centred cubic unit cell. If the radius of copper atom is 127.8 pm,

      calculate the density of copper metal.

      (a) Atomic mass of Cu = 63.55 u and Avogadro's number = 6.02×10^{23} mol^{-1}) [2]

7.   (a) What change in property occurs when AgCl is doped with $CdCl_2$

      (b) What type of semiconductor is produced when a group 16 element is doped with a group

      12 element? [2]

8.   Determine the osmotic pressure of a solution prepared by dissolving 2.5×10^{-2} g of K_2SO_4 in 2L

      of water at 25° C, consider K_2SO_4 is completely dissociated.

      (R = 0.0821 L atm K^{-1} mol^{-1} , Molar mass of K_2SO_4 = 174 g mol^{-1}) [2]

9.   What happens when we place the blood cell in water? Give reason. [2]

10. (a) Explain why H_2 and O_2 do not react at room temperature?

(b) Write the rate law for the reaction

$A_2 + 3 B_2 \rightarrow 2C$ if the overall order of the reaction is zero. [2]

11. Explain the following terms with an example each

(i) Antimicrobial drugs (b) Cationic detergents [2]

12. Complete the following chemical equations : [2]

(i) $Cl_2 + NaOH \rightarrow$ (ii) $P_4 + NaOH + H_2O \rightarrow$

OR

(i) $Cu + HNO_3$ (dilute) $\rightarrow$ (ii) $Xe + Pt F_6 \rightarrow$

13. (a) Why does copper obtained in the extraction from copper pyrites have a blistered appearance?

(b) What is the role of depressants in the froth floatation process?

(c) What is the role of coke in the extraction of iron from it's oxides? [3]

14. How would you account for the following:

(a) H_2S is more acidic than H_2O

(b) Both O_2 and F_2 stabilize high oxidation states but the ability of oxygen to stabilize the higher oxidation state exceeds that of fluorine.

(c) The N- O bond in NO_2^- is shorter than the N- O bond in NO_3^- [3]

15. (i) What type of isomerism is shown by the complex [CO $(NH_3)_6$] [Cr $(CN)_6$] ?

(ii) Why a solution of [Ni $(H_2O)_6$] $^{2+}$ is green while a solution of [Ni $(CN)_4]^{2-}$ is colourless?

(iii) Write the IUPAC name of the complex:

[CO $(NH_3)_4$ Cl $(NO_2)]^+$ [3]

16. Account for the following

(i) The dipole moment of chlorobenzene is lower than that of cylcohexyl chloride

(ii) Alkyl halide though polar, are immiscible with water.

(iii) Grignard's reagent should be prepared under anhydrous conditions. [3]

17. (a) Draw the structures of the following

(i) $H_2S_2O_7$ (ii) $HClO_4$

(b)What is the covalency of 'N' in $N_2 O_5$? [3]

18. (a) The decomposition of 'A' into 'B' and 'C' has a value of K as 4.5×10^3 s^{-1} at 10°C and energy of activation 60 KJ mol^{-1} . At what temperature would K be 1.5×10^4 s^{-1} ?

(b) If half life period of a first order reaction is X and ¾th life period of the same reaction is Y, How are X and Y related to each other? [3]
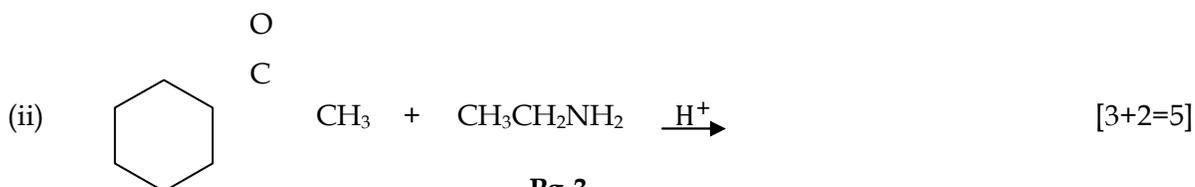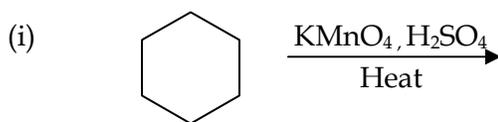
19. (a) What is the difference between α - glucose and β - glucose?

    (b) What are the expected products of hydrolysis of lactose?

    (c) Give one difference between α – helix and β - pleated sheet structure of protein. [3]

20. (a) Write the structures of the monomers used for the preparation of the following polymers.

    (i) Dacron   (ii) Melamine

    (b) Give an example of a biodegradable aliphatic polyester. [3]

21. (a) Give chemical tests to distinguish between the following pairs of compounds

    (i) Aniline and ethylamine   (ii) Benzaldehyde and Propionaldehyde

    (b) Convert Aniline to Benzonitrile [3]

22. When a certain electrolytic cell was filled with 0.1 M KCl , it has resistance of 85 ohms at 25° C.
    when the same cell was filled with an aqueous solution of 0.052 M unknown electrolyte , the
    resistance was 96 ohms. Calculate the molar conductance of the electrolyte at this concentration.

    [Specific Conductance of 0.1 MKCl = 1.29×10^{-2} mho cm^{-1} .] [3]

OR

An electrochemical cell is created by dipping a strip of nickel metal in 0.100 molar Ni(NO$_3$) and a
strip of silver metal in 1.00 M AgNO$_3$. Calculate the cell potential at 25° C by assigning the correct
polarity to the electrodes.

$$[E^0_{Ni^{2+}_{Ni}} = -0.25 \text{ V}; \ E^0_{Ag^+_{Ag}} = 0.80 \text{ V}]$$

23. (a) Write short notes on
       (i) Kolbe's reaction   (ii) Williamson's synthesis.
    (b) Convert Ethylchloride to propan-1-ol [3]

24. (a) Write the mechanism of acid dehydration of ethanol to yield ethene
    (b) Methylamine in water reacts with ferric chloride to precipitate hydrated ferric oxide.
       Give reason. [3]

25. (a) An organic compound 'A' (C$_2$H$_6$O) on oxidation by PCC gave 'B' , which on treatment with aqueous
       alkali and subsequent heating furnished 'C' . 'B' on oxidation by KMnO$_4$, forms a monobasic
       carboxylic acid with molar mass 60 g mol^{-1} . Deduce the structures of A, B and C.

    (b) Predict the product of the following reactions:

    (i) $\xrightarrow[\text{Heat}]{\text{KMnO}_4 , \text{H}_2\text{SO}_4}$

    (ii)   CH$_3$ +   CH$_3$CH$_2$NH$_2$ $\xrightarrow{H^+}$ [3+2=5]

Pg-3

OR

An organic compound A on treatment with acetic acid in the presence of sulphuric acid produces an ester B . A on mild oxidation gives C . C with 50 % KOH followed by acidification with dilute HCl generates A and D . D with PCl₅ followed by reaction with ammonia gives E . 'E' on dehydration produces hydrocyanic acid. Identify the compounds A, B, C, D and E.   [5]

26.   Explain giving reason:

(a) Cr^{2+} is reducing in nature while with the same d-orbital configuration (d⁴) Mn³⁺ is an oxidizing agent.

(b) There occurs much more metal – metal bonding in compounds of heavy transition metals.

(c) Transition metals and their many compounds act at good catalyst.

(d) Transition metals and many of their compounds show paramagnetic behaviour.

(e) The enthalpies of atomisation of transition metals are high.   [5]

OR

(a) Describe the preparation of potassium permanganate.

(b) What is the effect of increasing P^H on a solution of potassium dichromate?

(c) How does the acidified permanganate solution reacts with

    (i) Iron (II) ions   (ii) SO₂   [2+1+2=5]

27.   (a) What are the characteristics of the following colloids. Give one example of each.

    (i) Multimolecular Colloids

    (ii) Lyophobic Sols

    (iii) Emulsions

(b) How many moles of mercury will be produced by electrolyzing 1.0 M Hg $(NO_3)_2$ solution with a current of 2.00 ampere for 3 hours?

    [Atomic mass of Hg= 200.6 g mol^{-1}]   [3+2=5]

OR

(a) What do you mean by activity and selectivity of a catalyst? Explain with one example each.

(b) An aqueous solution of CuSO₄ (Copper sulphate) was electrolysed between platinum electrodes using a current of 0.1287 ampere for 50 minutes. Calculate the mass of copper deposited at the cathode.

[Atomic mass of Cu = 63. 55 g mol^{-1}]   [3+2=5]

****

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE- BOARD-II EXAMINATION (2017-18)

Class:-XII   **Subject:- Mathematics**

Time- 3 Hrs.   **M.M-100**

General Instructions:-

1.   _All questions are compulsory._
2.   _This question paper contains 29 questions._
3.   _Question 1-4 in Section –A are very short answer type questions carrying 1 mark each._
4.   _Question 5-12 in Section –B are short answer type questions carrying 2 marks each._
5.   _Question 13-23 in Section C are long answer –I type questions carrying 4 marks each._
6.   _Question 24-29 in Section –D are long answer – II type questions carrying 6 marks each._

<u>Section – A</u>   **[1x4=4]**

1.   **Find the number of binary operations on a set A = {a,b}**

2.   **If the matrix A = $[a_{ij}]_{2x2}$, where a_{ij} = 1 if i ≠ j and a_{ij} = 0 if i = j , then compute A² .**

3.   **Find the number of vectors of unit length perpendicular to the vectors**

   $\vec{a}$ = 2 $\hat{\imath}$ + $\hat{\jmath}$ + 2 $\hat{k}$ and $\vec{b}$ = $\hat{\jmath}$ + $\hat{k}$

4.   **Find the identity element for the binary operation * defined on Q – {0} as**
   a*b = $\frac{ab}{2}$, ∀ a, b ∈ Q - {0} , where Q- {0} denotes the set of all non – zero rational numbers.

<u>Section – B</u>   **[2x8=16]**

5.   **Solve the equation:- 2 tan⁻¹ (cosx) = tan⁻¹ (2 cosec x)**

6.   **Find the maximum value of** $\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1+sin\,\theta & 1 \\ 1 & 1 & 1+cos\,\theta \end{vmatrix}$

7.   **Prove that   sin⁻¹ (2x $\sqrt{1-x^2}$) = 2 sin⁻¹ x, if   - $\frac{1}{\sqrt{2}}$ ≤ x ≤ $\frac{1}{\sqrt{2}}$**

8.   **Find the approximate change in the volume V of a cube of side x metres caused by increasing the side by 1 %**

9.   **Evaluate:- $\int \dfrac{e^{6logx} - e^{5logx}}{e^{4logx} - e^{3logx}}$ dx**

10.   **Verify that ax² + by² = 1 is a solution of the differential equation x (yy_2 + y_1^2) = yy_1**
   where y₁ = $\frac{dy}{dx}$ and y_2 = $\frac{d^2y}{dx^2}$

Pg-1   P.T.O

11. Find the projection (vector) of $\hat{\imath} + 3\hat{\jmath} + 7\hat{k}$ on the vector $7\,\hat{\imath} - \hat{\jmath} + 8\,\hat{k}$

12. If P(A) = 0.8 , P (B) = 0.5 and P (B/A) = 0.4 , find   (i) P(A∩B)   (ii) P (A/B).

<div align="center"><u>Section – C</u></div>   [4x11=44]

13. Prove that $\begin{vmatrix} a^2 & bc & ac + c^2 \\ a^2 + ab & b^2 & ac \\ ab & b^2 + bc & c^2 \end{vmatrix} = 4\,a^2 b^2 c^2$

14. Evaluate 'k' if

$f(x) = \begin{cases} \dfrac{2^{x+2}-16}{4^x-16} & \text{, if } x \neq 2 \\[2mm] k, \text{ if } x = 2 \end{cases}$ is continuous at x =2

<div align="center">OR</div>

Show that the function f(x) = $|x|$ is not differentiable at x = 0

15. If $y = e^{a\cos^{-1}x}$, $-1 \leq x \leq 1$, show that $(1-x^2)\dfrac{d^2 y}{dx^2} - x\dfrac{dy}{dx} - a^2 y = 0$

16. Find the points on the curve y = x³ at which the slope of the tangent is equal to the y-coordinate of the point.

<div align="center">OR</div>

Find the intervals in which the function f(x) = (x+1)³ (x-3)³ is strictly increasing or strictly decreasing.

17. Evaluate:- $\int \dfrac{(x^4-x)^{1/4}}{x^5}\, dx.$

18. A telephone company in a town has 500 subscribers on its list and collects fixed charges of Rs. 300 per subscriber per year . The company proposes to increase the annual subscription and it is believed that for every increase of Rs. 1, one subscriber will discontinue the service. Find what increase will bring maximum profit. What value is being exhibited by the company?

19. Find the equation of a curve passing through the point (- 2, 3), given that the slope of the tangent to the curve at any point (x,y) is $\dfrac{2x}{y^2}$

<div align="center">OR</div>

Find the general solution of the differential equation $x\dfrac{dy}{dx} + 2y = x^2 \ (x \neq 0)$

20. If $\vec{a},\ \vec{b},\ \vec{c}$ are three vectors such that $\vec{a} + \vec{b} + \vec{c} = \vec{0}$, then prove that $\vec{a} \times \vec{b} = \vec{b} \times \vec{c} = \vec{c} \times \vec{a}$, hence show that $[\,\vec{a}\ \vec{b}\ \vec{c}\,] = 0$

21. Find the shortest distance between the lines
$\vec{r} = (\hat{\imath} + 2\hat{\jmath} + \hat{k}) + \lambda\,(\hat{\imath} - \hat{\jmath} + \hat{k})$ and
$\vec{r} = (2\hat{\imath} - \hat{\jmath} - \hat{k}) + \mu(2\hat{\imath} + \hat{\jmath} + 2\hat{k})$

<div align="center">Pg-2</div>

22. Bag I contains 3 red and 4 black balls and Bag II contains 4 red and 5 black balls. One ball is

transferred from Bag I to Bag II and then a ball is drawn from Bag II. The ball so drawn is found to be red in colour. Find the probability that the transferred ball is black.

23. In a hurdle race, a player has to cross 10 hurdles. The probability that he will clear each hurdle is $\frac{5}{6}$. What is the probability that he will knock down fewer than 2 hurdles?

Section – D $\hspace{3cm}$ [6x6=36]

24. Consider f: R_+ $\longrightarrow$ [-5 , ∞) given by f(x) = 9x² + 6x – 5. Show that f is invertible. Also calculate f⁻¹ (3).

OR

A = NU{0} XNU{0} and * be the binary operation on A defined by
(a,b) * (c,d) = (a+c , b+d) ∀ (a,b) , (c, d) ∈ A
  Show that * is commutative and associative. Find the identity element for * on A, if any.

25. If $A = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$, then find BA and use this to solve the

system of equations   y + 2z = 7 , x- y = 3 and 2x +3y + 4z = 17

OR

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

26. Prove that the curves y² = 4x and x² = 4y divide the area of the square bounded by x= 0, x=4, y= 4 and y = 0 into three equal parts.

27. Evaluate $\int_0^{\pi/4} \frac{sinx+cos\ x}{9+16\ sin\ 2x} dx$

OR

Evaluate $\int_0^1 e^{2-3x} dx$ as the limit of sum .

28. Find the length and the foot of the perpendicular from the point (7, 14 , 5) to the plane

2x + 4y – z =2 . Also find the image of the point P in the plane.

29. A toy manufacturer produces two types of dolls; a basic version doll A and a deluxe version doll B. Each doll of type B takes twice as long to produce as one doll of type A. The company has time to make a maximum of 2000 dolls of type A per day, the supply of plastic is sufficient to produce 1500 dolls per day and each type requires equal amount of it. The deluxe version doll requires a fancy dress of which there are only 600 per day available. If the company makes a profit of Rs. 3 and Rs. 5 per doll on doll A and B; how many of each should be produced per day in order to maximize profit? Solve it graphically.

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE- BOARD-II EXAMINATION (2018-19)

Class:-XII   **Subject:- Biology**

Time- 3 Hrs.   **M.M.-70**

General Instructions:-

1. All questions are compulsory.
2. The question paper consists of sections A, B, C, D.
3. Internal choice is given in all the sections.
4. Section A contains 5 questions of 1 mark.
5. Section B ha has 7 questions of 2 marks each.
6. Section C is of 12 questions of 3 marks each.
7. Section D has 3 questions of five marks each.

   Wherever necessary the diagrams drawn should be neat and properly labelled.

SECTION A

1. What is elution?

                    OR

   Mention two objectives of setting up of GEAC by our government.

2. Write the names of the following:

   (a) The plant form from which ferns and conifers have evolved

   (b) The biggest land reptile.

3. Name two diseases whose spread can be controlled by the eradication of *Aedes* mosquitoes.

4. What is allergy . Name two chemicals which are released during allergy.

5. What is point mutation? Name one disease in which glutamic acid is substituted by valine in

   haemoglobin molecule.

              OR

   What is the percentage of forest cover for plains and hills recommended by National Forest
   Policy (1988)

SECTION B

6. Differentiate between

           (a) Standing crop and standing state

           (b) Primary productivity and Secondary productivity

              OR

   Name four steps taken by the government of Delhi to reduce vehicular pollution emission.

7.	Gynaeceum of a flower may be apocarpous or syncarpous. Explain with the help of an example each.

8.	Suggest four important steps to produce a disease resistant plant through conventional plant breeding technology.

9.	With the help of an algebraic equation , how did Hardy- Weinberg explain that in a given population the frequency of occurrence of alleles of a gene is supposed to remain the same through generations?

OR

Explain the packaging of DNA in Eukaryotes.

10.	Differentiate between Detritus food chain and Grazing food chain. How the detritus food chain may be connected to grazing food chain.

11.	Name the two genera responsible for the infectious disease ringworm. What are the main symptoms of the disease.

12.	What role the bioreactors play in the field of biotechnology. What condition they provide to achieve the desired result.

SECTION C

13.	(a) Mention the problems that are taken care of by Reproduction and Child Health care programme.

	(b) What is amniocentesis and why there is a statutory ban on it?

	OR

	(a) List any four characteristics of an ideal contraceptive.

	(b) Name two intrauterine contraceptive devices that affect the motility of sperms.

14	Describe the structure of a microsporangium. Give a well-labelled diagram to support your answer.

15.	(a) In a step-wise sequence explain the events during fertilisation leading to the formation of diploid zygote.

	(b) Why do all copulation not lead to fertilisation and pregnancy.

16.	(a) Name the first restriction endonuclease.

	(b) What is the convention followed for naming these enzymes.

	(c) What are sticky ends and why are they named so.

	OR

	(a) Expand VNTR and describe its role in DNA fingerprinting.

	(b) List any two applications of DNA fingerprinting technique.

17.	Mention the name and the role of bioactive molecules produced by bacteria , fungus and yeast each in treating various human ailments .

18.	(a) Mention the cause and the body system affected by ADA deficiency in humans.

	(b) Explain the process of gene therapy to overcome ADA deficiency.

19.	Describe the three kinds of agents which brings about the transformation of normal cells into cancerous neoplastic cells.

20.   (a) Distinguish between translational unit in mRNA and UTR.

(b) What do you understand by aminioacylation.

21.   (a) Why must a cell be made competent in biotechnology experiments? How does calcium ions help in doing so?

(b) State the role of " biolistic gun " in biotechnology experiments.

22.   (a) What are the transcriptional products of RNA polymerase111

(b) Differentiate between Capping and Tailing.

(c) Expand hnRNA.

23.   Give three limitations of ecological pyramids.

SECTION D

24.   (a) Why is fertilisation in an angiosperm referred to as double fertilisation? Mention the ploidy of the cells involved.

(b) Draw a neat labelled sketch of L.S. of an endospermous monocot seeds.

OR

(a) Explain the menstrual   phase in a human female . State the levels of ovarian and   pituitary hormones during this phase.

(b) Why is follicular phase in menstrual cycle also referred as proliferative phase ? Explain.

(c)   Explain the events of graafian follicle at the time of ovulation and thereafter.

(d) Draw a graafian follicle and label antrum secondary oocyte.

25.   Describe   the series of experiments by F. Griffith. Comment on the significance of the results obtained.
B State the contribution of Macleod , McCarty and Avery.

OR

Explain

(a) Down"s syndrome

(b) Mendelian disorders

(c) Polygenic inheritance

(d) Pedigree analysis

(e) Satellite DNA

26.   What is decomposition? Explain in details the various steps of decomposition.

OR

(a) What depletes ozone in the stratosphere? How does this affect human life?

(b) Explain biomagnifications of DDT in an aquatic food chain. How does it affect bird population?

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI
PRE- BOARD-II EXAMINATION (2018-19)

Class:-XII   **Subject:-Economics**
Time- 3 Hrs.   **M.M.-80**

General Instructions

(i) Question 1 to 4 and 13 to 16 are very short answer questions or MCQ carrying one mark each. They should be answered in one sentence.

(ii) Question number 5, 6, 17 and 18 are short answer questions. They should be answered in 60 words each. Each question carries 3 marks.

(iii) Question number 7 to 9 and 19 to 21 are also short questions carrying 4 marks each. They should be normally answered in 70 words each.

(iv) 10 to 12 and 22 to 24 are long answer questions carrying 6 marks each. They should be answered in 100 words each.

(v)   Marks of each question are indicated against it.

(vi)   All parts of a question should be answered in one place.

(vii) Word limit is not applicable for numerical problems.

Section - A

1. When AVC of one unit of output is Rs 10, while that of 2 units is Rs 9. MC of one unit is:

   (a) Rs 8;   (b) Rs 9;   (c) Rs 10;   (d) Rs 19   [1]

2. In "returns to a factor", the word return refers to: [1]

   (a) Units of output   (b) value of output   (c) Total Profit   (d) per unit profit

3. Price elasticity of supply of a good is 2. It shows that: [1]

   (a) When price falls by 1%, supply rises by 2%

   (b) When supply falls by 1%, price rises by 2%

   (c) When price rises by 1%, supply rises by 2%

   (d) When supply rises by 1%, price rises by 2%

4. The nation has two alternatives of producing 100X + 200Y or 102X + 196Y from its given resources. The nation chooses the second. What is the marginal opportunity cost of producing X: [1]

   (a) 4Y   (b) 3Y   (c) 2Y   (d) 1Y

5. Explain Positive and Normative economics with the help of suitable examples
                                 OR   [3]
   Explain Microeconomics and Macroeconomics with the help of suitable examples.

6. Differentiate between Law of demand and Price elasticity of demand. [3]

7. Complete the following table. Identify and mention the 3 stages of production. [4]

Labour	1	2	3	4	5	6
Total Product	40	–	–	180	–	–
Average Product	–	–	–	–	36	–
Marginal Product	–	60	50	–	–	(-)18

8. Good Y is a substitute of Good X. The price of Good Y falls. Explain the chain of effects of this change in the market of X. Use diagram.

<div align="center">**OR**</div> [4]

Explain the chain of effects of excess supply of a good on its equilibrium price. Use diagram.

9. The demand of Good X and Y have equal price elasticity. The demand of X rises from 100 to 200 units due to 20% fall in its price. Calculate percentage rise in demand of Y, if its price falls by 8%. [4]

10. Define Producer's equilibrium. Discuss briefly the conditions of Producer's equilibrium assuming that the Producer can sell more units of the good by lowering the price. Use diagram and also make a hypothetical schedule. [6]

11. Suppose that a consumer has the MU_X and MU_Y as given in the table below. Suppose also his money income is Rs. 36, P_X = Rs.6 per unit and P_Y = Rs 3 per unit. How many units of X and Y would the consumer consume to be in equilibrium. Also find the M.U of 1 rupee.

Complete the following table. [6]

Q_X :	1	2	3	4	5	6
MU_X :	54	48	42	36	30	24

Q_Y :	1	2	3	4	5	6
MU_Y:	36	33	30	27	24	21

<div align="center">**OR**</div>

(A) Explain the shape of the budget line.

(B) Differentiate between MRS and MRE. [3+3=6]

12. (a) Write a note on classification of the oligopoly market.

(b) Identify and Explain the implication of the basic feature which makes   monopolistic competition different from perfect competition. [4+2=6]

SECTION – B

13. Define money supply. [1]

14. ………. refers to that portion of total deposit of a commercial bank which it has to keep with itself in the form of liquid assets. [1]

(a) cash reserve ratio   (b) statutory liquidity ratio   (c) bank rate   (d) repo rate

15. "Policies of surplus budget during inflation" is a part of which objective of the government budget: [1]

(a) Economic growth.   (b) Economic stability

(c) Reducing regional disparities   (d) Reallocation of resources.

16. As per the Government budget, the interest payments are estimated at 10000 crore which is 40% of the primary deficit. The fiscal deficit will be [1]

(a) Rs 4,000 ;   (b) Rs 25,000 ;   (c) Rs35,000 ;   (d) None of these.

17. Measure the level of ex-ante aggregate demand when autonomous investment and consumption expenditure is Rs50 crores and MPS is 0.2 and the level of income is Rs4,000 crores. Is the economy in equilibrium? Give reasons. [3]

OR

In an economy the consumption expenditure is Rs 8,750 crore and the ratio of average propensity to consume and average propensity to save is 7:1. Calculate the level of income in the economy.

18. In an economy planned spending is greater than planned output. Explain all the changes that will take place in an economy. [3]

19. How will Reverse Repo Rate and open market operation control excess money supply in an economy. [4]

20. Are the following revenue expenditure or capital expenditure in the context of government budget. Give reasons. [4]

(a) Expenditure on collection of tax

(b) Expenditure on purchase of computers for the government offices

(c) Repayment of loans

(d) Expenditure on subsidies.

21. "All capital goods are producer's goods but all producer's goods are not capital goods". Explain with suitable example.

<div align="center">**OR**</div>   [4]

   "Sale of Petrol and Diesel cars is rising particularly in big cities. Analyse the impact on GDP and Welfare.

22. (a) Discuss the significance of 45 degree line in Keynesian economics.

   (b) Given the consumption curve, derive the saving curve and state the steps taken in the process of derivation. Use diagram.   [2+4=6]

23. (a) What is the problem of double counting in national income accounting? How this problem can be avoided.

   (b) In an economy the following transaction took place. Calculate the value of output and the value added by the firm B.

   (i) Firm A sold to firm B goods of Rs 80 crore, to firm C Rs 50 crore, and to household Rs 30 crore and the goods of value Rs 10 crore remains unsold.

   (ii) Firm B sold to Firm C goods of 70 crore, to firm D Rs 40 crore, goods of value of Rs30 crore were exported and the goods of value of Rs 5 crore was sold to the government.   [3+3=6]

24. (a) Government takes measure to restrict autonomous import of gold. Explain the economic values desired to be achieved from this. Use diagram.

   (b) Explain the concept of deficit in balance of payment.   [6]

<div align="center">**OR**</div>

   (a) Explain the impact of rise in exchange rate on National income.

   (b) What is meant my "official reserve transaction"?

<div align="center">**************</div>

Class:-XII   **Subject:- Business Studies**

Time- 3 Hrs.   **M.M.- 80**

General Instructions:

1. Answer to questions carrying 1 mark may be from one word to one sentence.
2. Answer to question carrying 3 marks may be from 50-75 words.
3. Answer to questions carrying 4-5 marks may be about 150 words.
4. Answer to questions carrying 6 marks may be about 200 words.
5. All questions are compulsory attempt all parts of question together by giving the question numbers in bold.

Section A

1. "In an organisation employees are happy and satisfied, there is no chaos and the effect of management is noticeable." Which characteristic of management is highlighted by this statement?   [1]

2. Bawa cycles was in the business of manufacturing racing-cycles and had a monopoly in the market. The business was doing very well and the company was consistently meeting its objective of 10% increase in sales every year. Encouraged by the good track record, the Managing Director of the company kept an ambitious target of 15% increase in sales for the next year. The same year two competitors also entered the market and because of this the company was not able to meet its target. Identify the limitation of one of the functions of management because of which the company was not able to achieve its target.   [1]

3. Differentiate between Functional Structure and Divisional Structure on the basis of specialisation.   [1]

OR

Differentiate between Formal Organisation and Informal Organisation on the basis of Origin.

4. Amit is running an 'Advertising Agency' and earning a lot by providing this service to big industries . State whether the Working Capital requirement of the firm will be 'Less' or 'More'. Give reason in support of your answer.   [1]

5. Name the process of exchange of information between two or more persons to reach common understanding.

OR

Sudama Ltd. assured their employees that in spite of Recession no worker will be retrenched from the job. Name the type of incentive offered to the employees.   [1]

6. Name the term used in management for influencing people to strive willingly for achieving group objectives. [1]

7. Under the Three- Tier Mechanism , where can a legal heir or representative of a deceased consumer file a complaint when the compensation claimed is Rs. 25,00,000 ? [1]

8. What do you mean by Salesmanship? [1]

OR

State any one advantage of registering 'Trademark'.

Section B

9. Having transformed 2,500 Kirana stores across eight cities into virtual markets, the startup Quick Buzz decided in advance to collaborate with 15,000 to 20,000 store owners in top 30 cities of the country by the end of this year. The company has set its eye on digitizing over 1,00,000 Kirana stores over next two years.

   (a) Identify the function of management involved in the above case.

   (b) Name and explain the step in the process of the same identified in (a) above, performed by Quick Buzz as per the given paragraph.

   (c) Also explain the last step to be performed by Quick Buzz as a part of the same process. [3]

10. Tata International Ltd. earned a net profit of Rs. 50 Crore. Ankit the Finance Manager of Tata International Ltd. wants to decide how to appropriate these profits. Identify and explain the decision that Ankit will have to take and also enumerate any four factors which help him in taking such decision. [3]

11. Differentiate between 'Primary Market' and 'Secondary Market on the basis of:

   (a) Nature of Transaction   (b) Capital Formation   (c) Parties Involved   [3]

OR

Differentiate between 'Capital Market' and 'Money Market' on the basis of :

   (a) Meaning   (b) Instruments Used   (c) Investment Outlay

12. Explain any three functions performed by a Supervisor that are vital to any Organisation.   [3]

OR

Explain any three points that highlight the importance of Directing function of management.

13. 'Delegation is not a process of abdication.' Comment. [3]

Section C

14. It is heartening that the implementation of compliance requirements of the Companies Act, 2013 has progressed substantially with NIFTY 500 companies . Data shows a significant increase in women's participation in the Top management of Indian Companies, from 5% a few years ago to 13% now. Even companies, which are not in NIFTY 500, have undertaken drives to increase women's participation

across different areas of work. The government has also announced that it would support such companies. Identify and explain the dimensions of business environment discussed above which brought about the change. [4]

15. Mrs. Rajlakshmi is working as the Human Resource Consultant in a firm manufacturing cosmetics, which is facing a problem of high employee turnover. The CEO of the company has invited suggestions from her for retaining the talented employees and reducing the employee turnover. Mrs. Rajlakshmi recommends that the good employees be rewarded in a way that it creates a feeling of ownership among the employees and at the same time makes them contribute towards the growth of the organisation.

    (a) Identify the incentive, its type and explain both which have been suggested by Mrs. Rajlakshmi to the CEO of the company.

    (b) Also explain any two other incentives of the same type. [4]

16. "In today's commercial world, the stock exchange performs many vital functions which lead the investor towards positive environment." Explain how by giving any four points. [4]

OR

State the first four steps involved in the screen-based trading for buying and selling securities in the secondary market.

17. 'Mission Coach Ltd.' is a large and creditworthy company manufacturing coaches for Indian Railways. It now wants to export these coaches to other countries and decides to invest in new hi-tech machines. Since the investment is large, it requires long-term finance. It decides to raise funds by issuing equity shares. The issue of equity shares involves a huge floatation cost. To meet the expenses of floatation cost, the company decides to tap the money market.

    (a) Name and explain the money market instrument the company can use for the above purpose.

    (b) What is the duration for which the company can get funds through this instrument?

    (c) State any other purpose for which the instrument can be used. [4]

18. What do you mean by Packaging? Explain the different levels of packaging with the help of a suitable example. [4]

OR

"Though advertising is one of the most frequently used medium of promotion of goods and services, yet it attracts lot of objections.' Explain any four such objections.

19. Aman, a degree holder in Entrepreneurship, came to know about Piplantri Village located in Rajasthan where, in 2006, an initiative was started in which 111 trees are planted every time a girl child is born. To keep termites away from the trees, the villagers have planted 2.5 million Aloe Vera plants around the trees. This has turned the village into an oasis as the planting of trees has led to higher water levels. Aman decided to visit the village to start a business unit, for the processing and marketing of Aloe Vera into juices, gels and other products.

However, on visiting the village Aman found that the villagers were being exploited by local merchants who were engaged in unscrupulous, exploitative trade practices like hoarding and black marketing of food products and also selling unsafe, adulterated products to the villagers.

After looking at their plight, instead of a business organisation he decided to set up an organisation for the protection and promotion of the consumer interests of the villagers.

State any four functions that the organisation established by Aman will be performing. [4]

Section D

20. "In the absence of management, the productive resources will remain resources and shall never become products." Explain the importance of management in the light of this statement. [5]

OR

"Coordination is the orderly arrangement of group efforts to provide unity of action in the pursuit of common purpose." In the light of this statement, explain the nature of coordination.

21. A.S. Ltd. is a large company engaged in assembling air conditioners. Recently, the company conducted the 'Time' and 'Motion' study and concluded that, on an average, a worker can assemble ten air conditioners in a day. The daily target volume of the company is assembling 1,000 air conditioners. The company is providing attractive allowance to reduce labour turnover and absenteeism. All the workers are happy. Even then assembly of air conditioners per day is 800 units only. To find out the reason, the company compared actual performance of each worker and observed through CCTV that some of the workers were busy gossiping.

   (i)   Identify and explain the function of management discussed above.

   (ii) State those steps in the process of function identified in (a) above, quoting the suitable lines from the above paragraph . [5]

22. Hayaram is a famous chain, selling a large variety of products in the Indian Market. Their products include chips, biscuits, sweets and squashes. It charges a comparatively higher price than its competitors and sells quality products. Besides, it offers regular discounts to its customers and easy credit terms to its retailers. It has five of its own retail shops. It also sells its products through various grocery stores so that the products are made available to customers at right place, in the right quantity and at right time.

23. It regularly uses different communication tools to increase its sales.

The above para describes the combination of variables used by Hayaram to prepare its market offering.

(a) What do you mean by market offering?

(b) Identify and explain the variables of market offering used by Hayaram. [5]

Section E

24. Karan Nath took over 'D' north Motor Company' from his ailing father three months ago. In the past the company was not performing well. Karan was determined to improve the company's performance. He observed that the methods of production as well as selection of employees in the company were not scientific.

He believed that there was only one best method to maximize efficiency. He also felt that once the method is developed , the workers of the company should be trained to learn that 'best method'.

He asked the Production Manager to develop the best method and carry out the necessary training. The Production Manager developed this method using several parameters right from deciding the sequence of operations, place for men, machines and raw materials till the delivery of the product to the customers. This method was implemented throughout the organisation. It helped in increasing the output, improving the quality and reducing the cost and wastage.

Identify and explain the principles and the Technique of Scientific Management followed by the Production Manager in the above case. [6]

25. With the help of any six points, explain the crucial role that organizing plays in an enterprise. [6]

OR

"Organising involves a series of steps in order to achieve the desired goals." Explain them in detail.

26. Resolutions Pvt. Ltd. is a publishing company, Its book on Business Studies for Class XII is in great demand. As a result, the employees in the marketing department are always racing against time. The employees have to work overtime on holidays to cater to the demand.

Managers in the marketing department are under stress as they have to handle more than two territories. The work stress has led to dissatisfaction among the employees and managers.

(a) Name and explain the step of staffing process which has not been performed properly in detail.

(b) State the next four stages immediately following the step identified in part (a) above, clearly. [6]

****

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE- BOARD-II EXAMINATION (2018-19)

Class:-XII   **Subject:- Accountancy**
Time- 3 Hrs.   **M.M.-80**

General Instructions:-
   i.   This question paper contains two parts A and B
   ii. All part of a question should be attempted at one place.

1.   Plant and Machinery (book value) Rs. 100000 sold for Rs. 80000 through a broker who charged
     2% commission on deal Journalise the transaction , at the time of dissolution of the firm.   [1]

2.   Give one difference between Fixed Capital Method and Fluctuating Capital Method.   [1]

OR

What is meant by unlimited liability of a partner?

3.   Name any two items given in Receipts and Payments Account which are not considered in
     Income and Expenditure Account.   [1]

OR

What do you mean by Honorarium?

4.   One of the partners in a partnership firm has withdrawn Rs. 10000 at the beginning of each quarter
     Throughout the year. Calculate interest on drawings at the rate of 6% p.a.   [1]

5.   A group of 60 persons wants to form a partnership business in India. Can they do so. Give reason
     in support of your answer.   [1]

6.   What is meant by Employee Stock option plant?   [1]

OR

Differentiate between Equity Share and Preference Share.

7.   On 1st April 2018 a firm had assets of Rs. 500000 excluding Stock of Rs. 100000. The current
     liabilities were Rs. 50000 and the balance constituted partner's Capital Accounts. If the normal
     rate of return is 8% the goodwill of the firm is valued at Rs. 300000 at four years purchase of
     super profit, find the actual profit.   [3]

8.   State Bank of India had 20000, 10% Debenture of Rs. 100 each outstanding as at 31st March 2017
     These debentures were due for redemption on 30th June 2018 pass necessary journal entries
     for redemption of debentures. Also state the amount of Debenture Redemption Reserve to be
     created for the purpose of redemption.   [3]

9. Complete the following journal entries [3]

Date 2018	Particular	L.F.	Amount Rs.	Amount Rs.

April	Sundry Assets A/c Dr.
	 -------------------------- Dr.
	 To sundry liabilities A/c
	 To X Ltd. A/c
	 (Being X Ltd was taken over by Y Ltd
	 <u>For a purchase consideration of Rs. 1820000</u>
	 X Ltd A/c Dr.
	 -------------------- 	
	    To -------------------
	    To 10 % Debentures A/c
	 (For paying X Ltd by issuing a bill
	 of Rs. 20000 and the balance was paid by
	 issue of 10%. Debentures of Rs. 100 each at a
	 discount of 10%
			2400000
			 ------------ 	
			
			 1820000
			 ------------ 	
				680000
				 1820000
				
				 20000
				 ------------- 	

OR

Z Ltd. took loan of Rs. 1000000 from IDBI @ 12% p.a. interest. The company issued Rs. 750000

10% Debenture of Rs. 100 each in favour of IDBI as collateral security. Pass necessary journal entries of the above transactions.

(i) When Company decided not to record the issue of 10% Debentures as collateral security.

(ii) When company decided to record the issue of 10% Debentures as collateral Security.

10. Calculate the amount of Stationary to be transferred to Income and Expenditure Account of a club for the year ended 31st March 2018. [3]

Particular	Amount
Stock of Stationary on 01.04.2017	50000
Stock of Stationary on 31.03.2018	55000
Creditors for Stationary on 01.04.2017	37000
Creditors for stationary on 31.04.2017	45000
Amount paid to creditors for stationary	91000
Cash purchase of Stationary	40000
Stationary Sold during the year (Book Value Rs. 50000)	56000

11. A, B and C were partners in a firm sharing profits in 2:1:3 ratio. Their balance sheet as on 31.03.2018 was as follows: -

Liabilities	Amount	Assets	Amount
Creditors	100000	Land	100000
Bills Payable	40000	Building	100000
General Reserve	60000	Plant	200000
Capitals		Stock	80000
A 200000		Debtors	60000
B 100000		Bank	10000
C 50000	350000		---------
	550000		550000

From 01.04.2018 A, B, and C decided to share the future profits equally for this purpose it was decided that:-

(i) Goodwill of the firm to be valued at Rs. 300000

(ii) Land and Building revalued at Rs. 160000 and Rs. 94000

(iii) Creditors of Rs. 12000 were not likely to be claimed and hence be written off.

You are required to pass necessary journal entries in the books of firm. Show workings.   [4]

12. M, N and O were partners in a firm sharing profits and losses equally. There Balance sheet on 31.03.2018 was as follows :-

Liabilities	Amount Rs.	Assets	Amount Rs.
Capital		Plant and Machinery	60000
M 70000		Stock	30000
N 70000		Debtors	95000
O 70000	210000	Cash	35000
General Reserve	30000	Bank	40000
Creditors	20000		-----------
	260000		260000

N died on 12.06.2018, According to the Partnership Deed executors of the deceased partner are entitled to

(i) Balance of Patner's Capital A/C

(ii) Interest on Capital @ 5 % p.a.

(iii) Share of goodwill calculated on the basis of twice the average of past three years' profits and

(iv) Share of profits from closure of the last accounting year till the date of death on the basis of twice average of three completed years profits before death. Profits of last three years were Rs. 80000, Rs. 90000 and Rs. 100000 respectively. Prepare N's Capital Account to be rendered to his executors.   [4]

13. Receipt and Payment Account for the year ended 31.03.2018

Receipt s	Amount Rs.	Payments	Amount Rs.
To Balance b/d	32500	BY Salaries	31500
To Subscription		By Postage	1250
2016-17	1500	By Rent	9000
2017-18	60000	By Printing and Stationary	14000
2018-19	1800	By Sports Material	11500
To Donation for		By Misc. Expenses	3100
Billiards table	90000	By Furniture (01.10.2017)	20000
To Entrance Fees	1100	By 10% Investment (01.07.2017)	70000
To Sale of old Magazine	450	By Balanced c/d	27000
	187350		187350

Additional Information:-

(i) There are 250 members each paying an annual subscription of Rs. 300

(ii) Rs. 1200 is still in arrears for the year 2016-17 for subscription

(iii) Value of sports material at the beginning and at the end of the year was Rs. 3000 and
   Rs. 4500 respectively

(iv) Depreciation to be provided @ 10% p.a on Furniture.

Prepare Income and Expenditure Account for the year ended 31.03.2018. [6]

14. A and B are partners in a firm sharing profits and losses in the ratio of 3:2. They decided to dissolve
their partnership firm on 31.03.2018. A was deputed to realise the assets and to pay off the liabilities.
He was paid Rs. 1000 as commission for his services. The financial position of the firm on 31.03.2018
was as follows:-

Balance Sheet as at 31.03.2018

Liabilities	Amount Rs.	Assets		Amount Rs.
Creditors	40000	Building		60000
Mrs. A's Loan	20000	Investment		15300
B's Loan	12000	Debtors	17000	
Investment Fluctuation	4000	Less: Provision	2000	15000
Capital		Bills Receivable		18700
A 21000		Bank		3000
B 21000	42000	Profit and Loss a/c		4000
		Goodwill		2000
	-----------			----------
	118000			118000

Following terms and conditions were agreed upon

(i) A agree to pay off his wife's loan

(ii) Half of the debtors realized Rs. 6000 and remaining debtors were used to pay off 25% of
   the creditors

(iii) Investment Sold to B for Rs. 13500

(iv) Building realized Rs. 76000

(v) Remaining creditors were to be paid after two months, they were paid immediately at
   10% p.a. discount

(vi) Bills Receivable were settled at a loss of Rs. 700

(vii) Realization expenses amounted to Rs. 1250

Prepare Realization Account. [6]

15. A, B and C are partners in firm sharing profits in the ratio of 3:1:1. There fixed capital balance are Rs. 400000 Rs. 160000 and Rs. 120000 respectively. Net profit for the year ended 31.03.2018 distributed among the partners was Rs. 100000 without taking into account the following adjustments:-

(i) Interest on Capital @ 2. 5 % p.a.

(ii) Salary to A Rs. 18000 p.a. and commission to C Rs. 12000

(iii) A was allowed a commission of 6% of divisible profit after charging such commission

Pass a rectifying journal entry in the books of firm. Show workings clearly. [6]

OR

The partner of a firm A, B and C distributed the profits for the year ended 31.03.2018 Rs. 80000 in the ratio of 3:3:2 without providing the following adjustments: -

(i) A and C were entitled to salary of Rs. 1500 each p.a

(ii) B was entitled for a commission of Rs. 4000

(iii) B and C had guaranteed a minimum profit of Rs. 35000 p.a. to A any deficiency born equally

by B and C

Pass the necessary journal entry for the above adjustments in the books of firm.

Show working clearly.

16. A Ltd. invited applications for issuing 100000 shares of Rs. 10 each at a premium of Re 1per share. The amount was payable as follows:

On Application Rs. 3 per share

On Allotment Rs. 3 per share including premium

On First call Rs. 3 per share

On Second and Final call-Balance amount

Application for 160000 shares were received.

Allotment was made on the following basis:-

(i) To applicants for 90000 shares – 40000 shares

(ii) To applicants for 50000 shares – 40000 shares

(iii) To applicants for 20000 shares – full shares

Excess application money is to be adjusted against the amount due on allotment and calls.
Mr. Rajesh , a shareholder, who applied for 1500 shares and belonged to category (ii) paid only application money
Another shareholder Sudha who applied for 1800 shares and belonged to category (i) did not pay first and second and final call money.
All the shares of Rajesh and Sudha were forfeited and were subsequently reissued at Rs. 7 per share fully paid up.

Pass necessary journal entries in the books of A Ltd.   [8]

OR

X Ltd issued 50000 Equity shares of Rs. 10 each at Rs. 12 per share, payable as Rs. 5 on application including premium, Rs. 4 on allotment and balance on first and final call application for 70000 shares had been received. Of the cash received Rs. 40000 was returned and Rs. 60000 was applied to amount due on allotment. All shareholders paid the call due with the exception of one shareholder of 500 shares. These shares were forfeited and reissued as fully paid up at Rs. 8 per share. Journalise the above transactions.

17.   A and B were partners in a firm sharing profits equally. They admitted C as a new partner for 1/6th share in the profits. The Balance sheet of A and B as at 31.03.2018 was as follows: -   [8]

Liabilities	Amount Rs.	Assets	Amount Rs.
Creditors	66000	Cash	10000
Bills Payable	50000	Debtors	34000
General Reserve	24000	Stock	24000
Investment	20000	Investment	80000
Fluctuation Fund		Machinery	42000
Capitals		Building	200000
A 150000			
B 80000	230000		-----------
	390000		390000

The other terms of agreement on C's admission were as follow:-
(i) C was to bring Rs. 12000 for goodwill
(ii) Building will be valued at Rs. 185000 and Machinery at Rs. 40000
(iii) A provision of 6% will be created on debtors for bad debts.
(iv) The market value of investments is Rs. 70000
(v) C was to bring in Future Cash as it would made his capital equal to 25% of the combined capital of A and B after above revaluation and adjustment are carried out . Prepare Revaluation Account, Partner's Capital Accounts and the Balance Sheet of A, B and C.

OR

A, B and C are partners sharing profits and losses in the ratio of 3:2:1 respectively. Their Balance Sheet on 31.03.2018 was as follows: -

Liabilities	Amount Rs.	Assets	Amount Rs.
Capital A/C		Building	12000
A 24000		Plant and Machinery	18800
B 12000		Stock	9200
C 6000	42000	Debtors 12400	
Current A/cs		Less Provision 1200	11200
A 1920		Bank	16120
B 1680			
C 1120	4720		
Loan : A	5000		
Creditors	15600		
	67320		67320

A retired on 31.03.2018 and B and C continued in partnership sharing profits and losses in the ratio of 2:1. A'S loan was repaid on 01.04.2018 and it was agreed that the remaining balance due to him other than that of current account should remain as loan to the partnership. For the purpose of A's retirement, it was agreed that:

(i) Building be revalued at Rs. 24000 and plant and machinery at Rs. 15800

(ii) Provision for bad debts was to be increased by Rs. 400

(iii) A provision of Rs. 500 included in creditors was no longer required

(iv) Rs. 1200 was written off the stock in respect of damaged items included there in.

(v) A provision of Rs. 4240 be made in respect of outstanding legal charges.

(vi) The goodwill of the firm to be valued at Rs. 14400 and retiring partner's share is adjusted through the capital account of continuing partners.

You are required to prepare – Revaluation Account Capital and current Accounts of partners and Balance sheet of B and C on 01.04.2018

PART - B

18. Under which type of activity will you classify 'issuing 9% Debentures' while preparing cash flow statement? [1]

19. Declaration of final dividend would result inflow, outflow or no flow of cash give your answer with reason. [1]

20. Under which major heads and Subheads of the Balance sheet of a company will the following items be shown: -
    (i) Working Progress   (ii) Mining right   (iii) Calls in Advance   (iv) Trade Receivable [4]

21. A business has a Current Ratio of 3:1 and Quick ratio 1:2:1. If the working capital is Rs. 180000. Calculate total current assets, Quick Assets, Current Liabilities and Stock. [4]

OR

From the given information, calculate the inventory turnover ratio. Revenue from operation Rs. 200000 gross profit 25 % on cost, inventory at the beginning is 1/3rd of inventory at the end which was 30 % of revenue from operation.

22. From the following information provided, prepare a comparative income statements for the period 2017 and 2018.

Particulars	2017	2018	
Revenue from operation (Rs.)	600000	900000	
Cost of Raw material Consumed	60% of Revenue	50 % of Revenue	
Other expenses as% of	From operation	From operation	
(Revenue from operation − cost			
of material consumed)	20 %	15 %	
Income Tax	50 %	50 %	[4]

OR

From the following Balance Sheets of Sun Ltd. as at 31.03.2017 and 2018, Prepare a common Size Balance Sheet

Particulars	Note No.	31.03.2018	31.03.2017
Equity and Liabilities			
Share holders Fund			
Share Capital		4000000	3000000
Reserve and Surplus		600000	400000
Non current Liabilities			
Long term borrowings		1200000	1000000
Current Liabilities			
Trade Payable		200000	600000
		6000000	5000000
Assets:			
Non Current Assets			
Fixed Assets			
Tangible Assets		4000000	3000000
Intangible Assets		200000	600000
Current Assets			
Inventories		1200000	1000000
Cash and Cash Equivalents		600000	400000
		6000000	5000000

23. Prepare Cash Flow Statement for Kaveri Ltd. whose Balance Sheet as at 31.03.2017 and 2018 are given below [6]

Particulars	Note No.	31.03.2018 Rs.	31.03.2017 Rs.
Equity and Liabilities			
Share holders Fund			
Share Capital		850000	400000
Reserve and Surplus	1	180000	210000
Non Current Liabilities			
Long Term borrowings	2	600000	400000
Current Liabilities			
Trade Payable		175000	150000
Short Term Provisions	3	70000	120000
		---------	------------
		1875000	1280000
Assets:			
Non Current Assets:			
Fixed Assets			
Tangible Assets (Machinery)		1020000	940000
Non Current Investment	4	350000	
Current Assets:			
Inventories		250000	180000
Trade Receivable		170000	80000

		31.03.2018	31.03.2017
Cash and Cash Equivalents		85000	80000
		1875000	128000

Note of Accounts Particulars	31.03.2018	31.03.2017
1. Reserve and Surplus		
Surplus – i.e Balance in statement	180000	210000
of Profit and Loss	180000	210000
2. Long Term Borrowings		
9 % Debentures	600000	400000
	600000	400000
3. Short Term Provisions	70000	120000
Provisions For Tax	70000	120000
4. Non current Investments		
12 % Bonds	350000	-----------
	350000	-----------

Additional Information:-

During the year depreciation Rs. 80000 has been provided on the machinery and machine book value Rs. 40000 was sold for Rs. 20000. Proposed dividend as on 31.03.2017 and 2018 are Rs. 50000 and Rs. 60000 respectively.

****

Class:-XII   **Subject:-English**

Time- 3 Hrs.   **M.M.-100**

General Instructions:-

   i.   *This paper is divided into three sections: A,B&C*

   ii.   *All the sections are compulsory.*

   iii. *Read the instructions given with each section and question carefully and follow them faithfully.*

   iv. *Do not exceed the prescribed word limit while answering the questions.*

<u>**Section-A (Reading)**</u>   **[30]**

1.   **Read the passage and on the basis of your understanding of the passage answer the questions given below:**   **[20]**

   1. It was 200 years ago that a French doctor when examining a female patient rolled up sheets of paper and placed them to her heart instead of pitting his ear to her chest. This single act gave birth to that universal marker of medical practice, the stethoscope. Over two centuries this device has travelled wide, and is now seen in S&M shops, toy stores, medical exam rooms. Unfortunately on its two hundredth birthday, instead of celebration there's talk of dispatching the stethoscope to the morgue. Last week, Jagat Narula, a cardiologist provocatively claimed: 'The stethoscope is dead.'

   2. In 2014, Indian born 15-year-old Suman Mulumudi invented the Steth 10 in Seattle. He is one among several who have come up with alternatives to the regular stethoscope. His invention is essentially heart and lung sounds and converts them into a spectrogram which can be annotated an iphone case that amplifies and stored for future reference. The device is on the market. Besides this, there are other choices on the market. Others have cited a portable ultrasound machine as a possible successor. An FDA approved digital stethoscope that records the sounds of a patient's heart and transmits it into an app is also around. The clip stored in the cloud can be transferred for a second opinion anywhere in the world. Some stethoscope apps play doctor and deliver snap diagnosis by applying algorithms to match the patient's recordings with a re-programmed index of common sounds detected for listening to internal sounds of the body.

   3. The gains, experts say , are greater diagnostic accuracy, real-time results and streamlined treatment that saves the patient's time and money by eliminating superfluous tests and medication. But not all Indian doctors are convinced about it. Dr. Vinita Arora maintains that technology is what you tell technology. Good history taking and listening to a patient can never be substituted. If the machine misses even one sign the diagnosis could be incorrect. According to another doctor, Dr. CT Deshmukh, ninety percent of doctors can't do without a stetho, but some others point out stethos stand –ins will not penetrate the Indian Market until the new digital devices are introduced to students right at medical school. According to Dr. Neelesh Bhandari, when you go to techno conferences you realize

that stethoscopes are going out because apps and mobile devices are more accurate and tell you more.' For manufactures of steel stethoscopes their devices are a bargain at Rs. 500 to Rs. 2000. Even though electronic stethoscopes have been available for several years you will seldom come across them in use.

4. The economics of operating the nest gen stethoscope may prove a hurdle in India. Logistically the steep imbalance between doctor-patient ratio – 6 doctors to every 10,000 people could suppose that quicker, more efficient tools with tele-medicine capabilities would have sped up diagnosis. But then again 80% of the population is treated in rural India where steady electricity is a luxury.

5. This is why other doctors feel that it is not yet time for the stethoscope to exit although they believe that will undoubtedly come. For the present the convention is suggestive of the doctor's authority because when a patient sees an individual with a stethoscope they feel reassured that they are in capable hands and feel on the way to recovery. Moreover, if you take away the symbol you take away the placebo effect of the doctor.

6. Finally it is worthwhile to remember that a conventional stetho may not relay messages but it has always had a processor-between the ear tips.

1.1 Answer each of the questions given below by choosing the most appropriate option.   [1x5=5]

(i) The French doctor examining a woman patient
        (a) rolled up his sleeve
        (b) rolled up sheets of paper
        (c) placed a paper to his ear
        (d) invented the stethoscope

(ii) The stethoscope can now be seen in
        (a) medical operating rooms, toy shops
        (b) toy shops and sports goods
        (c) medical examination rooms and toy shops

(iii) The stethoscope has been in use for
        (a) a century
        (b) 200 years
        (c) since 2014
        (d) before the computer age

(iv) The digital stethoscope records
        (a) the patient's heartbeat and stores it in its memory.
        (b) the heart beats and transmits it to the Iphone
        (c) the heart beat and warns the doctor
        (d) the patient's heartbeat and stores it in an app

(v)   80 % of the population is treated in rural India where
        (a) doctor is a luxury
        (b) houses are not available
        (c) pucca roads are non existent
        (d) steady electricity is a luxury

1.2 Answer the following questions briefly: **[1x6=6]**
        (a) Who is Suman Mulumudi?
        (b) What is special about Mulumudi's invention?

(c) What does FDI digital stethoscope do?

(d) Why will the digital stethoscope prove a hurdle in India?

(e) What is Dr. Vinita Arora's take on technology?

(f) What is a patient's reaction to the conventional stethoscope?

1.3 **Answer any <u>three</u> of the following questions in 25-30 words .** **[2x3=6]**

(a) Who claimed that the stethoscope is dead?

(b) Logistically what is the steep imbalance between doctor-patient ratio?

(c) What is the placebo effect of the doctor?

(d) What is it that a conventional stetho may not relay but it still has something always between the ear tips?

1.4 **Pick out the words/phrases from the passage which are similar in meaning to the**
following: **[1x3=3]**

(a) able to be easily carried or moved (para 2)

(b) relating to or done by all people, applicable to all cases (para 1)

(c) based on or in accordance with what is generally done or believed (para 6)

2. Read the passage and answer the questions given below: [10]

James Doohan , Scotty from the original 'Star Trek' series, died in 2005. Before his death he left instructions in his will that he wished to be buried in space. It took a long time, but Doohan's ashes made it to space in 2012.

The first space burial took place 20 years before Doohan's and it involved the ashes of another person involved in 'Star Trek', that of its series creator Gene Roddenberyy. Since then, space burials have become big business. And believe it or not, with traditional funeral expenses going through the roof, the costs of space burials have actually become competitive. A company that specializes in space burials, Celestrix, offers a price list to potential customers. The launch of a single gram of a loved one's ashes into the earth's orbit starts at around $5,000. A launch of the same amount of ashes into deep space costs $ 12,500. The third option, of having one's ashes scattered on the moon can cost $ 9,950.

The popularity of space burials is now changing funeral habits in the United States. More and more people are choosing cremation instead of burial so that their relatives have the option of sending their ashes into space. Since 1999, according to the Cremation Association, in Canada and the Untied States, the rate of cremations has almost doubled.

Companies like Celestrix take payment from the departed family, receive the ashes and even provide the container to carry the remains. The container in this case is a special one as it must be secure enough to get past thermal, vibration and vacuum tests, before it can be launched so as not to explode while orbiting in space.

The space urn then is taken to ride out to space. It needs a vessel in which it can escape Earth's gravity.

Thus it has to be launched into space with the help of rockets with satellites, scientific equipment, climate instrumentation and other payloads.

As there are yet no dedicated spacecraft to run exclusive burial services, the remains have to be in waiting till a suitable opportunity can be found in a craft which can find room to accommodate the urn.

Some companies have begun to specialise in this operation. Ceveit is one company that offers customers 'a dignified memorial spaceflight.' The company takes the 'remains' up to join communication satellites, spy satellites and thousands of other satellites that circle the earth.

As a step further, there are companies that are looking at other options. One of them is planning to start a service to send a keepsake, such as a DNA sample, a wedding ring, a photograph, to the moon.

Once the keepsake reaches its destination, the client will get a photograph on the social media or any other network of one's choice, to cherish forever afterwards.

2.1 On the basis of your understanding of the above passage, make notes on it using headings and sub-headings. Use recognizable abbreviations (wherever necessary-minimum four) and a format you consider suitable. Also supply an appropriate title to it.   [5]

2.2 Write a summary of the passage in about 100 words.   [5]

Section-B (Advanced writing skills)   [30]

3. You are very upset about the reports on communal riots in various parts of the country. As a concerned social worker design a poster in not more than 50 words, highlighting the importance of communal harmony. You are Vinay/Vineeta.   [4]

OR

As Sports Secretary of G.D.C Public School, Pune, draft a notice in not more than 50 words, for your school notice board informing the students about the sale of old sports goods of your school. You are Rohini/Rohit.

4. When cricket teams go abroad, the members are allowed to take their wives, even friends along with them. Does this fact distract them or help them to focus on their game in a better way? If it is good, why don't we allow our athletes to enjoy the same privilege?

Write a letter to the Editor of 'The Hindustan Times' in 100-125 words giving your views on the issue. You are Varun/Aaruna of 48, Brahampuri Road, Meerut, Uttar Pradesh.   **[6]**

OR

You are Raman/Rama, a member of Parent-Teacher Association of Little Valley Senior Secondary School, Hyderabad. Write a letter to the Principal of the school asking him to introduce vocational stream in the school, providing facility of teaching such subjects as insurance, business management etc so that the students   may not needlessly continue academic studies. You are residing at 15, Anand Colony, Hyderabad. (Word limit 100 – 125)

5. Consumerism is increasing day by day. Luxuries of yesterday have become necessities of today. The result is that the more we want the more miserable we become. Write a debate in 150-200 words on 'The only way to minimize human suffering and pain is to control our needs.'
You are Navtej/ Navita.   [10]

OR

Your PGT English (teacher) Mrs. Geetha Ramachandran is a short story writer also. 'Sky is not far' is a collection of her latest short stories. Write a speech in 150-200 words you will deliver in her honour in the morning assembly.

Pg-4

6. While watching TV (Television) what we generally dislike most are commercial breaks, yet, a number of advertisements do add to our information. Write an article in 150-200 words on 'Advertisments as a source of information.' You are Karuna /Karan.   [10]

A few teachers and students from the Edwin University, British Columbia, Canada visited your school on an exchange programme. You welcomed them grandly and learnt a lot, interacting with them. Write a report in 150-200 words on their visit and the exchange programme for your school magazine .

SECTION-C
(Literature : Text books and Long Reading Text)   [40]

7.   **Read the following extract and answer the following questions briefly:**   **[1x4=4]**

> Therefore, on every morrow, are we wreathing
> A flowery band to bind us to the earth,
> spite of despondence, of the inhuman
> dearth of noble natures, of the gloomy days,
> of all the unhealthy and o'er - darkened ways
> made for our searching

(a) What are the flowery bands that bind us to the earth?

(b) What message do the above lines convey?

(c) Why is there an " inhuman dearth of noble natures"?

(d) What do you understand by "unhealthy and o'er-darkened ways"?

OR

> Bright topaz denizens of a world of green,
> They do not fear the men beneath the tree;
> They pace in sleek chivalric certainty

(a) Who are 'They'? Where are 'they'?
(b) Why are 'They' not afraid of men?
(c) What is the meaning of 'sleek'?
(iv) Who is the poet of this poem?

8.   **Answer any <u>four</u> of the following questions in 30-40 words.**   **[3x4=12]**
(a) How did Edla persuade her father to let the pedlar stay in their home till Christmas?
(b) How did Mahatma Gandhi uplift the peasants of Champaran?
(c) What is the poet Pablo Neruda talking about in the poem 'Keeping Quiet'. Which is the exotic moment that the poet refers to here?

Pg-5

(d) In the poem 'Aunt Jennifer's Tigers', what is the contrast between the reality of Aunt's life and her imagination?
(e) ' From that day onwards it was celebration time for all tigers inhabiting Pratibandapuram'. Bring out the irony in this statement.
(f) Why did Jack find the story telling ritual a chore?

9. **Answer any <u>one</u> of the following questions in 120-125 words.** **[6]**

   (a) Do the poor have the right to dream? Why then does the author call Mukesh's dream 'a mirage'?

   (b) In what way was Sophie's hero worship and fantasising at odds with her socio-economic background? Was she justified in dreaming the 'impossible"?

   (c) "I crossed to oblivion, and the curtain of life fell." What was the incident which nearly killed Douglas and developed in him a strong aversion to water?

10. **Answer any <u>one</u> of the following questions in about 120-150 words:** **[6]**

    (a) Mr. Lamb and Derry are two different sides of the same coin. Do you agree? Elaborate.

    (b) How did the negligence of the prison officers prove to be a boon for Evans?

    (c) Dr. Sadao was a patriotic Japanese as well as a dedicated surgeon. How could he honour both the values?

11. **Answer any <u>one</u> of the following questions in about 120-150 words:** **[6]**

    (a) How does the novel 'The Invisible Man' highlight the theme of corruption of morals in the absence of social restrictions?

    (b) How does Griffin rob the Buntings at the vicarage? Do the Buntings realize what had happened in their home? Why?

12. **Answer any <u>one</u> of the following questions in about 120-150 words.** **[6]**

    (a) Mr. Huxter had a very sharp eye and was a person quick to react. Describe how he tried to intercept Mr. Marvel but failed. What impression does he leave on the reader?

    (b) What impression do you form about "The Invisible Man"? Is he able to gain the reader's sympathy? Explain.

****

Pg-6

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
PRE- BOARD-II EXAMINATION (2018-19)

Class:-XII   **Subject:- Physical Education**
Time- 3 Hrs.   **M.M.-70**

General Instructions:-

1. **The question paper consists of 26 questions.**
2. **Answer to question 1-11 carrying 1 mark should be in approximately 20-30 words.**
3. **Answer to question 12-19 carrying 3 marks should be in approximately 80-100 words.**
4. **Answer to question 20-26 carrying 5 marks should be in approximately 150-200 words**.

1. What do you mean by league tournament? [1]

2. What is food intolerance? [1]

3. What is seeding? [1]

4. Mention any one cause of OCD? [1]

    OR

    If a woman athlete has amenoria, what symptoms of this problem may be displayed by her

    and what might be the cause?

5. Define motor development. [1]

6. Define functional disabilities. [1]

    OR

    What are the three impacts of circuit training?

7. What do you understand by anemia? [1]

8. What is chair sit and Reach test. [1]

    OR

    What do you understand by disability etiquette?

9. What is sprain? [1]

10. Define endurance. [1]

    OR

    List vitamins which are fat soluble and water soluble.

11. Define first aid. [1]

12. Describe the objectives of intramural tournament. [3]

Pg-1

P.T.O

13. Group of young children were undergoing training for a main event. Training was targeted to develop selected abilities and preparing for a competition. Some of team members tried to convince other fellow team member to use certain medicines which one boy did not agree. Other team members tried to convince him for the sake of the team but he firmly refused and convinced them that it is against the rules of the game.

    Based on the above paragraph, answer the following question: [3]

    (a) What value the boy has shown by refusing to use banned substance?

    (b) What personality trait he has shown by refusing to his team member?

14. Explain pit fall of dieting. [3]

OR

Briefly explain the physiological differences between male and female athletes in muscle performance.

15. Elaborate any three methods to prevent asthma. [3]

16. Explain the procedure of Arm Curl test. [3]

17. Explain three gender differences in detail. [3]

18. Explain about the management of fracture. [3]

OR

Differentiate between the three kinds of strain.

19. Discuss in detail about Female Athletes' triad. [3]

20. Draw a fixture of 07 team participating in the league tournament. [5]

21. Explain in detail the effect of diet on sports performance. [5]

22. Explain the causes of any five postural deformities in detail. [5]

OR

What is fracture? Explain the following types of fracture.

(a) Stress fracture   (b) Transverse Fracture   (c) Oblique Fracture   (d) Impacted Fracture

23. How AAPHER youth fitness test is administered. [5]

24. Keeping in view of the Indian Ideology, critically analyze the sociological aspect of women athletes in sports participation. [5]

25. Describe the type of personality. [5]

26. Explain the effect of exercise on Respiratory system. [5]

OR

Explain any five strategies to make physical activities accessible for children with special need.

Class:-XII   **Subject:- Engineering Graphics**

Time- 3 Hrs.   **M.M.-70**

General Instructions: -

Use both sides of the drawing sheet, if necessary. All dimensions are in millimeters. Missing and mismatching dimensions, if any, may be suitably assumed. Follow the SP: - 46-2003 revised codes (with first angle method of projection). In no view of question 2 , hidden edges or lines are required. In question 4, hidden edges or lines are to be shown in views without section. Give your answers according to questions.

---

1. Answer the following multiple choice questions. Print the correct choice on your drawing sheets.   [1x5=5]

    (i) The other name of the sung is

        (a) Bush   (b) Pin   (c) disc   (d) None

    (ii) Body of bush bearing made of

        (a) C.I.   (b) M.S.   (c) G.M.   (d) Brass

    (iii) The outer circular part of the pulley is called

        (a) Hub   (b) Rim   (c) Web   (d) Spokes

    (iv) Material of shaft is

        (a) GI   (b) CI   (c) HSS   (d) MS

    (v) Which one is not sectioned

        (a) Plate   (b) Sleeve   (c) Rivet   (d) Bush

2. (a) Construct an isometric scale .   [4]

    (b) A hexagonal pyramid of base side 30 mm, height 55 mm base side parallel to the V.P. It is resting on the ground of it's base. Axis is vertical. Draw the isometric projection, when it is in inverted position. Give all the dimensions. Show the direction from viewing.   [7]

    (c) A horizontal square prism of 40 mm side, length of the axis 70 mm, having it's square faces parallel to V.P. It is resting centrally with one of it's rectangular faces on the top circular face of a cylindrical disc of 90 mm base diameter, thickness (height) 25 mm. Draw the isometric projection of the combination of solids. Show the axis of each solids, indicate the direction of viewing. Give the dimensions. Axis of disc is perpendicular to H.P.   [13]

Pg-1

3. (i) Draw to scale 1:1 the standard profile of 'metric screw thread external' taking enlarged pitch 40 mm. Give the standard dimensions. [8]

<div align="center">**OR**</div>

Keep the axis parallel to V.P. and H.P, Draw to scale 1:1, the front view and side view of a 'Tee headed bolt' of diameter 20 mm. Give the standard dimensions.

(ii) Keep the axis vertical sketch freehand front view and top view of a 'Round head screw' of size M_{20}. Give the standard dimensions. [5]

<div align="center">**OR**</div>

Keep the axis vertical sketch freehand front view and top view of a 'Snap head rivet' of diameter 20mm. Give the standard dimensions.

4. Fig-1, Disassemble the parts of 'open bearing'. Assemble these parts correctly and draw to sclae1:1.

(i) Front view, right half section [14]
(ii) side view from right [8]

Print the title and scale used. Draw projection symbol. Give 6 important dimensions. [6]

<div align="center">**OR**</div>

Fig-2, Show the assembly of 'single grooved V-belt pulley'. Disassemble the parts and draw to scale 1:1. [8]

(i) Pulley

      (a) Front view upper half section [8]

      (b) Side view from left [8]

(ii) Shaft:

      (a) Front view [3]

      (b) left side view [3]

Print the title and scale used. Give 6 important dimensions. Draw projection symbol. [6]

<div align="center">**********</div>

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE- BOARD-II EXAMINATION (2018-19)

Class:-XII   **Subject:- Fine Art- Graphics**
Time- 2 Hrs.   **M.M.- 40**

General Instructions:-
(i) All the eight questions are compulsory which carry equal marks.
(ii) Answers to be written for question nos.1 and 2 in about200 words each and for question
nos. 3, 4 & 5 100 words each. Question nos.6, 7 and 8 are objective type..

---

1. How Modern Art developed? Why do you like or dislike the Contemporary (Modern) Art included in your course of study? Justify your answer with suitable examples.   [5]

2. Write an essay on the origin and development of Rajasthani or Pahari School of miniature painting.   [5]

3. Do you receive any spiritual message from Mughal miniature painting 'Kabir and Raidas' or famous Deccani miniature painting 'Hazarat Nizamuddin Auliya and Amir Khusro' ? Explain in short.   [5]

4. Which human life values and emotions are expressed in the painting 'Shiv and Sati' done by Nandalal Bose of Bengal school? Explain in short.   [5]

5. Identify any relevant painting including in your course of study comprising of the following features and explain them in that painting accordingly:-   [5]
   (a) The tradition of simple and straight forward compositions in the Rajasthani miniature painting, in which main figure stand out against a flat background in dark or bright colours.
                                             Or
   (b) Depiction of the Krishna-lila themes in the Pahari miniature paintings.

6. Evaluate the artistic achievement of any of the following contemporary (modern) Indian artists in your course of study :-   [5]
   (a) Kamlesh Dutt Pandey   (Painter)
   (b) Anupam Sud   (Graphic artist)
   (c) Ram Kinkar Beij   (Sculptor)

7. Mention the name of the artist of each of the following contemporary (modern) Indian art works included in your course of study:-   [5]
   (a) Ram vanquishing the pride of ocean   (Painting)
   (b) Words and Symbols   (Painting)
   (c) Children   (Graphics print)
   (d) Devi   (Graphics print)
   (e) Vanshri   (Sculpture)

8. Write in short which are included in the course of study: [5]
       (1) Mention the names of the Mughal Emperor who patronised the miniature painting-
            Krishna Lifting Mount Goverdhan
       (2) What is the names of the Artist who painted the miniature painting-
            Kabir and Raidas
       (3) Important painting of Golkonda sub – school
       (4) Example of Hydrabad Sub-school painting
       (5) Painting based on Rag in Deccan school