Delhi Public School, BPKIHS, Dharan-2021

Descriptive Assignment: I

SUMMER HOLIDAY

Class: XII
Subject: Physics
MM: 70

Name: ____________________________ Date: ____________________________

Section-A

Answer the following: (6 x 2 marks = 12 marks)

1. Why two field lines do not intersect?
2. State with an example the right hand thumb rule to explain direction of magnetic field?
3. Define solenoid? And write its magnetic property?
4. Define drifting of an electron when external field is given to the conductor?
5. Define polarization of the dielectrics?
6. Capacitance of capacitor cannot be zero? Why?

Section-B

Answer the following: (6 x 3 marks = 18 marks)

1. State and explain Biot and Savart law?
2. What do you mean by Ohm’s law in microscopic form?
3. Find the field due to a charged sphere at its center?
4. Derive an expression to show that potential due to dipole at any point is depends upon the cosine angle between axis of dipole and position vector.
5. Two charges 2µC and –2µC are placed at points A and B 5 cm apart. Depict an equipotential surface of the system.
6. A 10 v battery of negligible internal resistance is connected across a 200 V battery and a resistance of 38Ω as shown in the figure. Find the value of the current in circuit.

Section-C

Answer the following: (4 x 5 marks = 20 marks)

Explain

1. A high tension (HT) supply must have a very large internal resistance. Why?
2. A low voltage supply from which one need high current must have very low internal resistance. Why?

1. Two metal spheres, one of radius R and other of radius 2R, both have same surface charge density. They are brought in contact and separated. What will be the new surface charge densities of one of them? Calculate to explain your result.

2. Total charge \(-Q\) is uniformly spread along length of the ring of radius R. A small test charge \(+q\) of mass M is kept at the center of the ring and given a gentle push along the axis of the ring. Find the time period of the oscillation of charge.

3. Derive an expression to show that the capacitance of capacitor increases when dielectric is inserted in between the plates of capacitor.

4. State Gauss’s law for the total flux obtained when \(+Q\) amount of charge is surrounded by a closed region of shape sphere. And use this law to calculate electric field due to a uniformly charged square sheet.

**Section-D (4 x 5 marks = 20 marks)**

1. State Ampere’s law to determine the strength of magnetic field across a current carrying circular ring. Also write a suitable formula for it.

2. Calculate the current drawn from the battery in the given network. (All India 2009)

3. The figure shows a plot of terminal voltage ‘\(V\)’ versus the current ‘\(i\)’ of a given cell. Calculate from the graph
   (a) emf of the cell and
   (b) internal resistance of the cell.

4. Find the magnetic field at a point on the axis of a circular coil carrying current and hence find the magnetic field at the centre of the circular coil carrying current.
MCQs : 1 mark each

1. The Henry's law constant for the solubility of N₂ gas in water at 298K is 100000 atm. The mole fraction of N₂ in air is 0.8. The number of moles of N₂ from air dissolved in 10 moles of water at 298K and 5 atm pressure is
   (a) $4.0 \times 10^{-4}$       (b) $5.0 \times 10^5$       (c) $4.0 \times 10^5$       (d) $4.0 \times 10^{-6}$

2. The value of Henry's constant $K_h$ is
   (a) Greater for gases with higher solubility.
   (b) Greater for gases with lower solubility.
   (c) Constant for all gases.
   (d) Not related to the solubility of gases.

3. The vapour pressure of two liquids P & Q are 80 and 60 torr respectively. The total vapour pressure of solution obtained by mixing 3 mol of P and 2 mol of Q would be
   (a) 72 torr       (b) 140 torr       (c) 68 torr       (d) 20 torr

4. If molality of dilute solution is doubled, the value of molal depression constant ($K_f$) will be
   (a) halved       (b) tripled       (c) unchanged       (d) doubled

5. Choose the correct option:
   (a) Both $E_{\text{cell}}$ and $\Delta G$ of a cell reaction are intensive property.
   (b) Both $E_{\text{cell}}$ and $\Delta G$ of a cell reaction are extensive property.
   (c) $E_{\text{cell}}$ is an intensive while $\Delta G$ of a cell reaction is extensive property.
   (d) $E_{\text{cell}}$ is an extensive while $\Delta G$ of a cell reaction is an intensive property.

6. Why does the conductivity of a solution decrease with dilution?
   (a) No. of ions per cubic cm of solution increases.
   (b) No. of ions per cubic cm of solution decreases
   (c) No. of ions per cubic cm of solution remains constant
   (d) None of these

7. An increase in molar conductance of a weak electrolyte with dilution is mainly due to:
   (a) increase in both i.e. number of ions and ionic mobility of ions.
   (b) increase in number of ions
   (c) increase in ionic mobility of ions
   (d) 100% ionization of electrolyte at normal dilution

8. Two different electrolytic cells are connected in series, containing aq AgNO₃ and aq CuSO₄ respectively. The molar ratio of copper to silver deposited at cathodes in the two cells will be
   (a) 2/1       (b) 1/2       (c) 3/2       (d) 2/3

9. If a salt bridge is removed between the half cells, the voltage:
   (a) drops to zero       (b) does not change       (c) increase gradually       (d) increases rapidly

10. Limiting molar conductivity of some ions are given below:
    Na⁺ = 50.1, Cl⁻ = 76.3, H⁺ = 349.6, CH₃COO⁻ = 40.9 Ca²⁺ = 119.0
    What will be the limiting molar conductivity of CaCl₂, CH₃COONa and NaCl respectively?
    (a) 97.65, 111.0 and 242.8 S cm² mol⁻¹
    (b) 19503, 182.0 and 26.2 S cm² mol⁻¹
    (c) 271.6, 91.0 and 126.4 S cm² mol⁻¹
    (d) 119.0, 1024.5 and 9.2 S cm² mol⁻¹
11. The molar conductivity of CH$_3$COOH at infinite dilution is 390 S cm$^2$/mol. Using the graph and given information, the molar conductivity of CH$_3$COOK will be:

(a) 100 S cm$^2$/mol  
(b) 115 S cm$^2$/mol  
(c) 150 S cm$^2$/mol  
(d) 125 S cm$^2$/mol

Instructions for question no. 12-15:
(a) Both Assertion and Reason are true but Reason is the correct explanation of Assertion.
(b) Both Assertion and Reason are true and Reason is not the correct explanation of Assertion.
(c) Assertion is false but Reason is true.
(d) Assertion is true but Reason is false.

12. Assertion: Zinc can liberate H$_2$ from aqueous solution of HCl.
   Reason: Zinc has positive reduction potential.

13. Assertion: 0.1 M NH$_4$OH at 25$^0$C has more conductance than at 50 $^0$C.
   Reason: Conductance of a weak electrolyte increases with increase in temperature.

14. Assertion: Camphor is usually used in molecular mass determination.
   Reason: Camphor has low cryoscopic constant and therefore, causes greater depression in freezing point.

15. Assertion: Elevation in boiling point for two isotonic solutions may not be same.
   Reason: Boiling point does not depend upon the concentration of solute.

SECTION – B

Short answer type questions: 2 marks each

16. (a) Define fuel cell  
   (b) Write the name of the cell which is generally used in transistors. Write the reactions taking place at the anode and the cathode of this cell.

17. (a) Calculate $\Delta$G and $E^*_{\text{cell}}$ for the following reaction at 298 K:  
   2Al(s) + 3Cu$^{2+}$ (0.01 M) $\rightarrow$ 2Al$^{3+}$ (0.01M) + 3Cu(s)
Given: $E_{cell} = 1.98V$
(b) Using the $E^o$ values of A and B, predict which is better for coating the surface of iron $[E^o(\text{Fe}^{2+}/\text{Fe}) = -0.44V]$ to prevent corrosion and why?

Given: $E^o(A^{2+}/A) = -2.37V : E^o(B^{2+}/B) = -0.14V$

18. State Kohlrausch law of independent migration of ions. Write its one application.
20. State Raoult's law for a solution containing volatile components. Write two characteristics of the solution which obey Raoult's law at all concentrations.
21. Give reasons:
   (a) A decrease in temperature is observed on mixing ethanol and acetone.
   (b) Potassium chloride solution freezes at a lower temperature than water.
22. The vapour pressures of ethanol and methanol are 44.5 mm Hg and 88.7 mm Hg respectively. An ideal solution is formed at the same temperature by mixing 60 g of ethanol with 40 g of methanol. Calculate the total vapour pressure of the solution and the mole fraction of methanol in the vapour.

SECTION – C

Short answer type questions: 3 marks each
23. 3.9 g of benzoic acid dissolved in 49 g of benzene shows a depression in freezing point of 1.62 K. Calculate the van’t Hoff factor and predict the nature of solute (associated or dissociated).
   (Given: Molar mass of benzoic acid= 122 g mol$^{-1}$, $K_f$ for benzene = 4.9 K kg mol$^{-1}$)
24. A 4% solution w/W of sucrose (M = 342 g mol$^{-1}$) in water has a freezing point of 271.15K. Calculate the freezing point of 5% glucose (M = 180 g mol$^{-1}$) in water.
   (Given: Freezing point of pure water = 273.15 K)
25. Give reasons:
   (a) Cooking is faster in pressure cooker than in cooking pan.
   (b) Red Blood Cells (RBC) shrink when placed in saline water but swell in distilled water.
   (c) It is not possible to obtain pure ethanol by fractional distillation.
26. Give reasons:
   (a) The mercury cell gives constant voltage throughout its life.
   (b) Rusting of iron is quicker in saline water than in ordinary water.
   (c) Zinc protects iron from corrosion better than tin.
27. (a) Why can limiting molar conductivity of CH$_3$COOH not be determined experimentally?
   (b) How many coulombs of charge are required to produce 20.0 g of calcium from calcium chloride?
   (c) What is salt bridge? Give two functions of salt bridge.
28. Write the Nernst equation for the following cell:
   $$ \text{Zn} \text{| Zn}^{2+}\text{(aq) | | Cu}^{2+}\text{(aq) | Cu} $$
   Write the reaction occurring at each electrode and the net cell reaction.
   Also determine its cell potential when $[\text{Zn}^{2+}\text{(aq)}] = 1 M, [\text{Cu}^{2+}\text{(aq)}] = 1 M, E^o(\text{Zn}^{2+}|\text{Zn}) = -0.76 V$ and $E^o(\text{Cu}^{2+} | \text{Cu}) = +0.34 V$

SECTION – D

Long answer type questions: 5 marks each

CASE BASED QUESTIONS :

30. (a) When 2.56 g of sulphur was dissolved in 100 g of CS2, the freezing point lowered by 0.383 K. Calculate the formula of sulphur (Sx).

(Kf for CS2 = 3.83 K kg mol⁻¹, Atomic mass of Sulphur = 32 g mol⁻¹).

(b) Blood cells are isotonic with 0.9% sodium chloride solution. What happens if we place blood cells in a solution containing:

(i) 1.2% sodium chloride solution?

(ii) 0.4% sodium chloride solution?

31. (a) What type of battery is the lead storage battery? Write the anode and cathode reactions and the overall reaction occurring in a lead storage battery when current is drawn from it.

(b) In the button cell, widely used in watches, the following reaction takes place:

\[ \text{Zn (s) + Ag}_2\text{O (s) + H}_2\text{O (l) } \rightarrow \text{Zn}^{2+} \text{(aq)} + 2\text{Ag (s)} + 2\text{OH}^- \text{(aq)} \]

Determine \( E^0 \) and \( \Delta G^0 \) for the reaction.

Given : \( E^0 (\text{Ag}^+ | \text{Ag}) = +0.80 \text{V} \), \( E^0 (\text{Zn}^{2+} | \text{Zn} ) = -0.76 \text{V} \)

32. Read the passage given below and answer the questions that follow:

(i) Is silver plate the anode or cathode?

(ii) What will happen if the salt bridge is removed?

(iii) When does electro-chemical cell behaves like an electrolytic cell?

(iv) What will happen to the concentration of Zn²⁺ and Ag⁺ when \( E_{\text{cell}} = 0 \).

(v) Why does conductivity of a solution decreases with dilution?

(vi) The molar conductivity of a 1.5 M solution of an electrolyte is found to be 138.9 S cm² mol⁻¹. Calculate the conductivity of this solution.

33. Read the passage given below and answer the following questions:

Raoult’s law states that for a solution of volatile liquids, the partial vapour pressure of each component of the solution is directly proportional to its mole fraction present in solution. Dalton’s law of partial pressure states that the total pressure (p_total) over the solution phase in the container will be the sum of the partial pressures of the components of the solution and is given as:

\[ p_{\text{total}} = p_1 + p_2 \]

(a) Is the above mentioned Raoult’s law applicable for non-volatile liquids?

(b) What type of deviation from Raoult’s law does the above graph represent?

(c) Give an example of such system.
(d) A solution of two liquids boils at a temperature more than the boiling point of either of them. What type of deviation will be shown by the solution formed in terms of Raoult’s law?
GROUP A (7x1 marks = 7 MARKS)

1. Which of the following hormones are active during the ovulatory phase of menstrual cycle in normal human females?
   a. FSH and LH  
   b. LH and estrogen  
   c. FSH and estrogen  
   d. Estrogen and Progesterone

2. Which of the following is a true fruit?
   a. Banana  
   b. Guava  
   c. Apple  
   d. Strawberry

3. A human being suffering from Down's syndrome shows trisomy of
   a. 21st chromosome  
   b. 19th chromosome  
   c. 15th chromosome  
   d. None

4. AUG codes for amino acid
   a. Methionine  
   b. Valine  
   c. Phenylalanine  
   d. None

5. How many codons do not code for amino acids?
   a. 21  
   b. 3  
   c. 12  
   d. 11

6. MTP are safe during
   a. first trimester  
   b. second trimester  
   c. third trimester  
   d. None

7. Haploid content of human DNA is
   a. $3.3 \times 10^9$  
   b. $3.3 \times 10^8$  
   c. $3 \times 10^7$  
   d. None of these

SECTION B (3X1 marks = 3 marks)
Question no 1 TO3 consists of two statements Assertion (A) and Reason(R).
Answer these questions selecting the appropriate option given below.

A  Both A and R are true and R is the correct explanation of A
B  Both A and R are true and R is not the correct explanation of A
C  A is true but R is false
D  A is false but R is true

1. Assertion: Apomictic embryos are genetically identical to parent plant.
   Reason: Apomixis is the production of fruits without fertilization.

2. Assertion: Genetic code is degenerate.
   Reason: Most amino acids are coded by more than one codon.

3. Assertion: When white-eyed yellow-bodied Drosophila females were hybridized with red-eyed, brown-bodied males and F1 progeny was intercrossed, F2 ratio deviated from 9:3:3:1.
   Reason: When two genes in a dihybrid are on the same chromosomes, the proportion of parental gene combinations is much higher than non-parental type.

SECTION C (8X2 marks=16 marks)

I. Answer the following.
   a. Draw diagram of male gametophyte and label.
   b. How does HIV differ from a bacteriophage.
   c. Explain first two steps of DNA fingerprinting.
d. What is meant by emasculation? When and why does plant breeder do it.

e. Where do signals for parturition originate from in humans? Write the function of LH in human males.

f. Draw diagram of replication fork and label

g. Explain the process of development of a male gametophyte in angiosperm. Why is it called male gametophyte?

h. What is a test cross? Design a test cross.

GROUP-D (8X3 marks = 24 marks)

Answer the following

a. With the help of a labeled diagram show a typical mature embryo sac and TS of an apple.

b. Placenta acts as an endocrine tissue comment. Draw a sectional view of human blastocyst.

c. Explain in brief about Lac operon with diagram.

d. Why is tubectomy considered a contraceptive method? Explain ZIFT and name two copper releasing intrauterine devices and reasons that make them effective contraceptives.

e. A girl was reported to be suffering from haemophilia. How is it possible? Explain with the help of a cross.

f. Explain any two sex-linked recessive disorders.

g. What is incomplete dominance? Show it with the help of a cross.

h. Explain in brief semiconservative mode of DNA replication.

GROUP-E (4X5 marks = 20 marks)
. Answer the following

1. a. What is double fertilization? Explain.

b. Show formation of an embryo sac from megaspore mother cell with diagram.

2. A true-breeding homozygous pea plant with green pods and axial flowers as dominant characters, is crossed with a recessive homozygous pea plant with yellow pods and terminal flowers. Work out the cross up to F2 generation giving the phenotypic ratios of F1 and F2 generations.

3. a. Why is DNA molecule more stable genetic material than RNA? Explain.

b. Unambiguous, degenerate, and universal are salient features of genetic code. Explain.

4. Explain transcription in prokaryotes with diagram. Where are untranslated regions located in mRNA and mention their role.

Namita Sachdev
1) Find the dot product of the vectors $\mathbf{a} = \mathbf{i} - \mathbf{j} + \mathbf{k}$ and $\mathbf{b} = \mathbf{i} - \mathbf{j}$. 

2) Write the magnitude of the vector $\mathbf{a}$ in terms of a dot product. 

3) Let $\mathbf{a} = \mathbf{i} - \mathbf{j} + \mathbf{k}$ and $\mathbf{b} = \mathbf{i} + 2\mathbf{j} + \mathbf{k}$. Find the projection of $\mathbf{b}$ on $\mathbf{a}$. 

4) Find $\mathbf{b} \cdot \mathbf{a}$ if $\mathbf{a} = \mathbf{i} - \mathbf{j} + \mathbf{k}$ and $\mathbf{b} = 2\mathbf{i} + 3\mathbf{j} + 4\mathbf{k}$. 

5) If $\mathbf{a}$ is a unit vector and $(\mathbf{x} - \mathbf{a}) \cdot (\mathbf{x} + \mathbf{a}) = 80$ find the value of $|\mathbf{x}|$. 

6) Find the angle between the vectors $\mathbf{i} + \mathbf{j} + \mathbf{k}$ and $\mathbf{i} + \mathbf{j} - \mathbf{k}$. 

7) Find the scalar projection of $\mathbf{a} = 2\mathbf{i} - \mathbf{j} + \mathbf{k}$ on $\mathbf{b} = 2\mathbf{i} + 6\mathbf{j} + 3\mathbf{k}$. 

8) Prove that $\frac{1}{7} (2\mathbf{i} + 3\mathbf{j} + 6\mathbf{k}) \cdot \frac{1}{7} (3\mathbf{i} - 6\mathbf{j} + 2\mathbf{k}) \cdot \frac{1}{7} (6\mathbf{i} + 2\mathbf{j} - 3\mathbf{k})$ are mutually perpendicular vectors. 

9) If $\mathbf{p} = 5\mathbf{i} + \alpha\mathbf{j} - 3\mathbf{k}$ and $\mathbf{q} = \mathbf{i} + 3\mathbf{j} - 5\mathbf{k}$ then find the value of $\alpha$ so that $\mathbf{p} + \mathbf{q}$ and $\mathbf{p} - \mathbf{q}$ are perpendicular vectors. 

10) Find the value of $(\mathbf{i} \times \mathbf{j}) \cdot \mathbf{k} + \mathbf{i} \cdot \mathbf{j}$. 

11) Find $'\alpha'$ if $(2\mathbf{i} + 6\mathbf{j} + 14\mathbf{k}) \times (\mathbf{i} - \alpha\mathbf{j} + 7\mathbf{k}) = \mathbf{0}$. 

12) If $|\mathbf{a}| = 3$, $|\mathbf{b}| = 4$, $|\mathbf{c}| = 5$, such that each is perpendicular to the sum of the other two, prove that $|\mathbf{a} + \mathbf{b} + \mathbf{c}| = 5\sqrt{2}$. 

13) If the vectors $\mathbf{a}$, $\mathbf{b}$, and $\mathbf{c}$ satisfy the condition $\mathbf{a} + \mathbf{b} + \mathbf{c} = \mathbf{0}$ and $|\mathbf{a}| = 2$, $|\mathbf{b}| = 4$, $|\mathbf{c}| = 3$ then find the value of $\mathbf{a} \cdot \mathbf{b} + \mathbf{b} \cdot \mathbf{c} + \mathbf{c} \cdot \mathbf{a}$. 

14) Find the direction cosines of a line passing through the points $(-1, -1, -1)$ and $(2, 3, 4)$. 

15) Write the direction cosines of the vector $-2\mathbf{i} + \mathbf{j} - 5\mathbf{k}$. 

16) Find the area of the triangle whose vertices are: A(1, 2, 3) B(2, -1, 4) and C(4, 5, -1). 

17) Show that the following points are colinear: (1, 2, 7), (2, 6, 3), (3, 10, -1).
18) Find the direction cosines of the line: \( \frac{2x+5}{2} = \frac{3-2y}{3} = \frac{3z+1}{4} \) also find the vector equation of the line.

19) Find the V.E of the line through (4,3,-1) and parallel to the line:

20) Find the angle between the lines: \( \frac{-x+2}{-2} = \frac{y-1}{7} = \frac{z+3}{-3} \) and \( \frac{x+2}{-1} = \frac{2y-8}{4} = \frac{z-5}{4} \)

21) Find the value of ‘p’ so that the lines \( L1 \frac{1-x}{3} = \frac{7y-14}{2p} = \frac{z-3}{2} \) and \( L2 \frac{7-7x}{3p} = \frac{y-5}{1} = \frac{6-z}{5} \)

22) The vector equation of two lines are: \( \vec{r} = i + 2j + 3k + \alpha(2i + 3j + 4k) \) and \( \vec{r} = 2i + 4j + 5k + \beta(3i + 4j + 5k). \) Find the shortest distance between the lines.

23) Show that the lines \( \vec{r} = 3i + 2j - 4k + \alpha(i + 2j + 2k) \) and \( \vec{r} = 5i - 2j + 0k + \beta(3i + 2j + 6k). \) are intersecting. Hence, find their point of intersection.

24) Maximize \( z = 4x+y \) subject to: \( x+y \leq 50, x, y \geq 0 \)

25) Draw the graph of the LPP \( 3x+y \leq 17, x, y \geq 0 \)

26) Minimize \( Z = -3x + 4y \)

\( x + 2y \leq 8, 3x + 2y \leq 12, x, y \geq 0 \)

27) If \( p(A) = 0.8 \) \( p(B) = 0.5 \) \( p(B/A) = 0.4 \) find i) \( p(A \cap B) \) ii) \( p(A \cup B) \)

iii) \( p(A/B) \)

28) A fair die is rolled. Consider the events: \( E = \{1,3,5\} \) \( F = \{2,3\} \) \( G = \{2,3,4,5\} \)

Find a) \( P(E/F) \) b) \( P(E \cup F/G) \) c) \( P(E \cap F/G) \)

29) The probability of student A passing an examination is \( \frac{2}{9} \) and of student B passing an examination is \( \frac{5}{9} \). Assuming the two events ‘A passes’ B passes as independent. Find the probability of:

i) only A passing the examination

ii) Only one of them passing the examination

30) A husband and his wife appear for an interview for two posts. The probability of husband’s selection is \( \frac{1}{7} \) and that of wife’s selection is \( \frac{1}{5} \)
What is the probability that only one of them is selected?

31) If $A$ and $B$ are two independent events such that $P(\bar{A} \cap B) = \frac{2}{15}$ and $P(A \cap \bar{B}) = \frac{1}{6}$ find $P(A)$ and $P(B)$.

32) Given two independent events $A$ and $B$ such that $P(A) = 0.3$ and $P(B) = 0.6$ find i) $P(A \text{ and } B)$ ii) $P(A \text{ and not } B)$.

33) If $A$ and $B$ are two independent events, then the probability of occurrence of at least one of $A$ or $B$ is given by $1 - P(A)P(B)$.

34) In a set of 10 coins, 2 coins with heads on both sides. A coin is selected at random from this set and tossed five times. Of all the five times, the result was head, find the probability that the selected coin had heads on both the sides.

35) A card is drawn from a pack of 52 cards is lost. From the remaining cards of the pack, three cards are drawn at random (without replacement) and are found to be all spades. Find the probability that the lost card being a spade.
Q1. Very short Answer type Questions. (2x5=10)

a. The activities involved in managing an enterprise are common to all organization whether economic, social or political. Which characteristics of management is highlighted by this statement.

b. Name any two characteristics of management.

c. Mansi took her niece Riddhima for shopping to buy her a bag. She was delighted when on payment of the bag she got a pencil box along with the bag free of cost. Identify the technique of sales promotion used by the company.

d. What are 4 ‘p’s of marketing. Name them.

e. What are commonly used sales promotion activities. Name them.

Q2. Short Answer type Question (3x5=15)

a. Product is a bundle of utilities. Do You agree? Comment.

b. List the characteristics of good brand name.
c. What is convenience products? List the characteristics of convenience products.
d. Why is management considered to be multi-dimensional concept?
e. Read the following text and answer the following question on the basis of the same.

Sana is the branch manager of ABC handicrafts pvt. ltd. The company's objective is to promote the sales of Indian handloom and handicraft product. It sells fabric, furnishing, readymade and household items are made out of traditional Indian fabrics.

Sana decides quantities, variety, colour and texture of all the above items and then allocate resources for their purchase from different suppliers. She appoints a team of designer and crafts people in the company who develop some print for bed covers in bright colour on silk. Although the products looked very attractive they were relatively expensive on the front of affordability for an average customer.

Sana suggested that they should keep the silk bed covers for special festive occasions and offer the cotton bed covers on a regular basis to keep cost under control.

a. "she appoints a team of designer and crafts people in the company, who developed some prints for bed covers in bright colour on silk" which function of management is highlighted in this context?
   i. Controlling
   ii. Staffing
   iii. Planning
   iv. Directing

b. In the above case company's objective is to promote the sales of Indian handloom and handicrafts. This line focus on which feature of management.
   i. Management is an intangible force
   ii. Management is goal oriented process
   iii. Management is pervasive in nature
   iv. Management is continuous process
c. With reference to above case at which level of management sana is working?
   i. Lower level
   ii. Top level
   iii. Middle level

Q3. Long Answer type Question (5x5=25)

a. What is marketing mix? What are its main elements? Explain all of them.

b. Define pricing? What are the factors affecting determination of the price of product or service? Explain.

c. Management is a series of continuous interrelated functions. Comment.

d. Coordination is the essence of management. Give reason and what are the characteristics of coordination? Explain them.

e. Management is considered to be both art and science. Explain.
1) TABA company issued 15,000 fully paid up equity shares of ₹100 each for the purchases of the following assets and liabilities from Jay Company.

- Plant ₹3,50,000;
- Stock ₹4,50,000;
- Land and Building ₹6,00,000;
- Sundry Creditors ₹1,00,000.

Amount of goodwill will be:
(a) ₹2,00,000 (b) ₹1,80,000 (c) ₹1,60,000 (d) ₹1,40,000

2) Jay Ltd. issued 400 shares of ₹10 each to Suresh on which he has paid ₹3 per share on application but failed to pay allotment money of ₹3 per share and first call money of ₹2 per share. His shares were forfeited before making the final call. These shares were later on reissued at ₹8 per share fully paid up. The amount will be transferred to capital reserve:
(a) ₹500 (b) ₹400 (c) ₹1,200 (d) ₹800

3) Vjay Co. Ltd. Purchased a machine from Vishal Co. for Rs. 64,000. It was decided to pay Rs. 10,000 in cash and balance paid by issue of shares of Rs. 10 each Issued at premium of 20%. No. of shares to be issued to Vishal Co-
(a) 5400 (b) 4500 (c) 6000 (d) None of these

4) Premium on issue of shares is—
(a) Revenue profit (b) Revenue Loss (c) Capital Gain (d) Capital Loss

5) Right shares are issued to—
(a) Directors (b) Promoters (c) Existing Shareholders (d) None of these

Answer all the Questions (2q*3mark=6)

6) Agyaa Ltd. invited applications for 100,000 shares of ₹10 each payable as follows: ₹2 on application, ₹3 on allotment, ₹2 on first call and the balance on final call. All the shares were applied and allotted. All the money was duly received.

You are required to Journalise these transactions.
7) Green Ltd. issued 8,000 Equity Shares of ₹10 each. ₹5 per share was called, payable ₹2 on application, ₹1 on allotment, ₹1 on first call and ₹1 on second call. All the money was duly received with the following exceptions:
A who holds 250 shares paid nothing after application.
B who holds 500 shares paid nothing after allotment.
C who holds 1,250 shares paid nothing after first call.
Calculate the actual amount paid on allotment and first call.
Answer all the Questions (2q*4mark=8)
8) Journalise the following transaction at the time of issue of 10% Debentures: Calvin Ltd. issued ₹90,000, 10% Debentures of ₹100 each at a discount of 5% redeemable at 110%.
9) Pass necessary Journal entries for the issue of Debentures in the following cases:
(a) ₹40,000; 9% Debentures of ₹100 each issued at a discount of 10% redeemable at par.
(b) ₹80,000; 9% Debentures of ₹100 each issued at a premium of 10% redeemable at a premium of 10%.
Answer all the Questions (1q*6mark=6)
10) Commence Publications Ltd. issued 50,000 Equity Shares of ₹10 each at a premium of 10% payable as under:
On application ₹2,
On allotment ₹5,
On first call ₹2,
On final call ₹2.
The calls were made by the company and all the money was duly received except the allotment and call money on 500 shares. These shares were, therefore, forfeited and later reissued @ ₹9 per share as fully paid-up.
Pass necessary journal entries to record the above transactions.
1. When did the Government of India declare its first Industrial Policy?
   a) 1956   b) 1991   c) 1948   d) 2000

2. The objective of the Industrial Policy 1956 was ...........
   a) Develop heavy industries   b) Develop agricultural sector only
   c) Develop private sector only   d) Develop cottage industries only

3. Repo Rate means...
   a) Rate at which the Commercial Banks are willing to lend to RBI
   b) Rate at which the RBI is willing to lend to commercial banks
   c) Exchange rate of the foreign bank
   d) Growth rate of the economy

4. Monetary policy has formulated by...
   a) Co-operative banks   b) Commercial banks   c) Central Bank
   d) Foreign banks

5. The father of Green Revolution in India was .............
   a) M.S. Swaminathan   b) Gandhi   c) Visveswaraiya
   d) N.R. Viswanathan

6. Define the problem of double counting in the computation of national income. State any two approaches to correct the problem of double counting.

7. Explain about any two Monetary policies

8. Explain about the Quota and tariff method in import policies.

9. Do you think outsourcing is good for India? Why are developed countries opposing it?

10. From the following data calculate national income by income method and expenditure method

Rs in Crores

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Interests</td>
<td>150</td>
</tr>
<tr>
<td>b) Rent</td>
<td>250</td>
</tr>
<tr>
<td>c) Govt. final consumption expenditure</td>
<td>600</td>
</tr>
<tr>
<td>d) Private final consumption expenditure</td>
<td>1200</td>
</tr>
<tr>
<td>e) Profit</td>
<td>640</td>
</tr>
<tr>
<td>f) Compensation of employees</td>
<td>1000</td>
</tr>
<tr>
<td>g) Net factor income from abroad</td>
<td>30</td>
</tr>
<tr>
<td>h) Net indirect taxes</td>
<td>60</td>
</tr>
<tr>
<td>i) Net exports</td>
<td>(-) 40</td>
</tr>
<tr>
<td>j) Depreciation</td>
<td>50</td>
</tr>
<tr>
<td>k) Net domestic capital formation</td>
<td>340</td>
</tr>
</tbody>
</table>