HOLIDAY'S HOME WORK

CLASS XII – 2015 –'16

ENGLISH CORE

1Read the novel 'The Invisible Man' with special reference to Griffin , Kemp ,Marvel and Mrs Hall.

2 Write articles on the following topics :

a. **Global Terrorism (Quote incidents from 2014-'15)**
b. **Swach Bharat Abhiyan- Concept and Reality**
c. **Women Empowerment**
d. **Disaster Management is the need of the hour**
e. **Road Rage –Reasons and Solutions**
f. **A Healthy Individual Means A Healthy Nation**

3 Collect samples of classified advertisements (10 of each classification) and posters and paste them in your registers.

4 Collect information about the educational qualifications for the following professions :

a. **Chartered Accountant**
b. **Sales Representative**
c. **Teachers for various subjects**
d. **Receptionist**
e. **Assistant Administrative Officer**

Maths

Chpater-3,4 (Matrices & Determinants)

Q1. Find the value of x, y, z *if* $\begin{bmatrix} x+y+z \\ x+z \\ y+z \end{bmatrix} = \begin{bmatrix} 9 \\ 5 \\ 7 \end{bmatrix}$

Q2. A matrix has 3 rows and 4 columns. How many elements a matrix has?

Q3. Given a matrix $A = [a_{ij}], 1 \le i \le 3, \quad 1 \le j \le 2$

Where $a_{ij} = \dfrac{4i - j}{5}$ write the element a_{22}, a_{21}, a_{34} & a_{12}

Q4. A matrix has 20 elements, what are the possible orders of a matrix?

Q5. Find AB, if defined:

(a) $A = \begin{bmatrix} 1 \\ 2 \end{bmatrix}, \quad B = \begin{bmatrix} 3 \\ 4 \end{bmatrix}$

(b) $A = \begin{bmatrix} 1 \\ 2 \end{bmatrix}, \quad B = \begin{bmatrix} 3 & 4 \end{bmatrix}$

Q6. Solve for x: $\begin{bmatrix} 1 & x \end{bmatrix} \begin{bmatrix} 2 & -1 \\ 1 & 2 \end{bmatrix} \begin{bmatrix} 1 \\ 3 \end{bmatrix} = 0$

Q7. If points (a, b), (a_1, b_1) and (a-a_1, b-b_1) are collinear show that $ab_1 = a_1b$

Q8. Find the value of x, *if* $\begin{vmatrix} 2 & 4 \\ 5 & 1 \end{vmatrix} = \begin{vmatrix} 2x & 4 \\ 6 & x \end{vmatrix}$

Q9. How many values of k are possible, if area of a triangle with vertices (2, 0), (k, 5) (–1, 3) is 7 sq. units? Give reason.

Q10. For a given square matrix A, |A| = –4 and A(adjA) $= \lambda I$ Find the value of λ

Q11. Find matrix X such that:

A – 2B + X = 0 where A = $\begin{bmatrix} 5 & 3 \\ -3 & 1 \end{bmatrix}$; $B = \begin{bmatrix} 0 & -2 \\ 3 & 1 \end{bmatrix}$

Q12. Find the inverse of the matrix $\begin{bmatrix} 1 & 3 \\ 2 & 7 \end{bmatrix}$ using E.R.T.

Q13. If A = $\begin{bmatrix} 2 & 3 \\ 1 & 2 \end{bmatrix}$, prove that $A^3 - 4A^2 + A = 0$

Q14. Express the following matrix as the sum of a symmetric and a skew symmetric matrix:

$$\begin{bmatrix} 1 & 3 & 5 \\ -6 & 8 & 3 \\ -4 & 3 & 5 \end{bmatrix}$$

Q15. Find A^{-1} of matrix A = $\begin{bmatrix} a & b \\ c & \dfrac{1+bc}{a} \end{bmatrix}$ and show that $aA^{-1} = (a^2 + bc + 1)I - A$

Q16. Without expanding prove that $\begin{vmatrix} 1 & a & a^2 - bc \\ 1 & b & b^2 - ac \\ 1 & c & c^2 - ab \end{vmatrix} = 0$

Q17. Using properties of determinants, solve for x: $\begin{vmatrix} a+x & a-x & a-x \\ a-x & a+x & a-x \\ a-x & a-x & a+x \end{vmatrix} = 0$

Q18. P.T. (using properties)

$$\begin{vmatrix} a & b & c \\ a^2 & b^2 & c^2 \\ b+c & c+a & a+b \end{vmatrix} = (a+b+c)(a-b)(b-c)(c-a)$$

Q19. Solve (using properties)

$$\begin{vmatrix} x+4 & 2x & 2x \\ 2x & x+4 & 2x \\ 2x & 2x & x+4 \end{vmatrix} = 0$$

Q20. P.T.(using properties)

$$\begin{vmatrix} a & b & c \\ a-b & b-c & c-a \\ b+c & c+a & a+b \end{vmatrix} = a^3 + b^3 + c^3 - 3abc$$

Q21. Using matrix method, solve the following example:

$$2x + 6y = 2$$
$$3x - z = -8$$
$$2x - y + z = -3$$

Q22. If $A = \begin{vmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{vmatrix}$ Find A^{-1}, using A^{-1} solve,

$$2x - 3y + 5z = 11$$
$$3x + 2y - 4z = -5$$
$$x + y - 2z = -3$$

Q23. If $A = \begin{bmatrix} 2 & 3 & 1 \\ 3 & -2 & 1 \\ 7 & -1 & 2 \end{bmatrix}$ Find A^{-1}. using A^{-1} solve,

$$2x + 3y + 7z = 12$$
$$3x - 2y - z = 0$$
$$x + y + 2z = 4$$

Q24. Determine the product: $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and use it to solve the system of eqs:

$$x - y + z = 4$$
$$z - 2y - 2z = 9$$
$$2x + y + 3z = 5$$

Q25. Solve:

$$5x + 3y + 7z = 4$$
$$3x + 26y + 2z = 9$$
$$2x + 2y + 10z = 5$$

Q26. Find inverse (using E.R.T.):

$$\begin{bmatrix} 2 & -1 & 3 \\ 3 & 2 & -1 \\ 4 & 5 & -5 \end{bmatrix}$$

Q27. For the matrix A = $\begin{bmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & -1 & 3 \end{bmatrix}$

Show that $A^3 - 6A^2 + 5A + 11I = 0$, hence find A^{-1}

Q28. Find the matrix A satisfying the matrix equation:

$$\begin{bmatrix} 2 & 1 \\ 3 & 2 \end{bmatrix} A \begin{bmatrix} -3 & 2 \\ 5 & -3 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

Q29. Solve:

$$\frac{2}{x}-\frac{3}{y}+\frac{3}{z}=10$$
$$\frac{1}{x}+\frac{1}{y}+\frac{1}{z}=10$$
$$\frac{3}{x}-\frac{1}{y}+\frac{2}{z}=13$$

Q30. Find inverse (using E.C.T.):

$$\begin{bmatrix} 2 & 1 & 1 \\ 1 & 3 & -1 \\ 3 & 1 & -2 \end{bmatrix}$$

Chpater-1 (Relation & Functions)

Q1. Let A = [1, 2], B = [1, 3] and R is a relation from set A to set B defined as:

R = [(1, 1), (1, 3), (2, 1), (2, 3)]. Is 'R' a universal relation? Give reason.

Q2. Let Z be the set of all integers and the relation R in Z, defined by:

R = [(a, b) : a – b is divisible by 3] is an equivalence relation. Write the equivalence class related to [1].

Q3. The function is defined as "To each person on earth is assigned the number which corresponds to his age." Is the function one-one?

Q4. Let $f(x)=|x| \; and \; g(x)=[x]$

Evaluate: $fog\left(\frac{-7}{3}\right)-gof\left(\frac{-7}{3}\right)$

Q5. Consider the binary operation $*$ on Q defined as $a*b=a+5b+ab \quad for \; a,b\in Q, \; find \; 6*\frac{1}{5}$

Q6. Show that the function f: R – [–1] → R – [1], given by $f(x) = \frac{x-3}{x+1}$ is bijective function.

Q7. Let $*$ be a binary operation on the set Q of rational numbers, defined as a $*$ b = a + ab. Is $*$ commutative, associative?

Q8. Give an example of a relation which is reflexive and symmetric but not transitive.

Q9. Let A = N X N and $*$ be a binary operation on A, defined by (a, b) $*$ (c, d) = (a + c, b+d). Show that $*$ is commutative and associative. Find the identity element of A.

Q10. If $f(x) = \frac{5x+3}{4x-5}$, $x \neq \frac{5}{4}$, show that fof is an identity function.

Q11. Consider f = R^+ → [–5, ∞) given by f(x) = $9x^2$ + 6x – 5. Show that f is invertible and also find f^{-1}.

Q12. Determine whether the relation R = [(x, y) = y is divisible by x] defined on set A = [1, 2, 3, 4, 5, 6] is reflexive, symmetric and transitive.

Q13. Show that the relation R on the set

A = $[x \in z : 0 \leq x \leq 15]$, given by

R = [(a, b) : |a – b| is a multiple of 5] is an equivalence relation.

Q14. Show that the function f : R → (–1, 1) defined by $f(x) = \frac{x}{1+|x|}$, $x \in R$ is one-one onto function.

Q15. Let $*$ be a binary operation on Q – [–1] defined by a$*$b = a + b + ab $\vee$ a, b$\in$Q – [–1]. Then:

(a) Show that $*$ is both commutative and associative.
(b) Find the identity element in Q – [–1].
(c) Show that every element of Q – [–1] is invertible. Also find the inverse of an arbitary element.

PHYSICS

HOLIDAY HOMEWORK

Q1. A rod of length L has a total charge Q distributed uniformly along its length. It is then bent in the shape of semi-circle. Find the magnitude of the electric field at the centre of the curvature of the semi circle.

Q2. A circular wire loop of radius a carries a total charge Q distributed uniformly over its length. A small length dl of the wire is cut-off. Find the electric field at centre due to the remaining wire.

Q3. A point charge of q is placed outside a metallic hollow cube at distance d from the centre of the cube. What is the field intensity at the centre produced due to the charges induced on the surface of the cube?

Q4. The potential energies associated with fore orientations of an electric dipole in an electric field are, (i) $-5U_o$ (ii) $-7U_0$ (iii) $3U_0$ and (iv) $5U_0$. Where U_0 is positive. Rank the orientation according to:

(a) angle between the dipole and field
(b) the magnitude of the torque on the dipole with greatest at first.

Q5. Sketch qualitatively the electric field lines both between and outside two concentric conducting spherical shells when a uniform positive charge q_1 is on the inner shell and a uniform negative charge $-q_2$ is on the outer one. Consider the cases: $|q_1| > |q_2|$, $|q_1| = |q_2|$, $|q_1| < |q_2|$

Q6. The charge q is spread on the length L. Show that the field at a point P perpendicular to the length form its centre is given by:

$$E = \frac{q}{2\pi\varepsilon y} \times \frac{1}{\left(L^2 + 4y^2\right)^{1/2}}$$

Q7. Two large cooper plates are 5cm apart and have a uniform electric field between them and electron is released from negative plate simultaneously a proton is released from the positive

plate. Neglect the force between proton and electron. Find their distance from positive plate when they pass each other.

Q8. A some instant the velocity components of an electron moving between two charged parallel plates are $V_x = 1.5 \times 10^5$ m/s and $V_y = 3.0 \times 10^3$ m/s. Suppose that electric field between the plates be given by E = (120 N/C) $\hat{j}$

(a) What is the acceleration of the electron?
(b) What will be the velocity of the electron after its x coordinate has changed by 2.0 cm?

Q9. A proton with a speed $V = 3 \times 10^5$ m/s orbits just outside a charged sphere of radius 10 cm. What is the charge on the sphere?

Q10. Two electrons are fixed 2 cm apart. Another electron is shot from infinity and stops midway between the two. What is the initial speed?

Q11. Prepare one investigatory project in Physics. (Those who have attended the workshop in Science Education Centre should complete the project work in all respect and those who are not interested in attending the workshop will decide the topic for project and prepare the project and may leave the observation part of it.)

Electrochemistry

Q1. What is the use of platinum foil in SHE?

Q2. Why does a cell stops working after some time?

Q3. What is the effect of dilution on conductivity and molar conductivity?

Q4. Why salt bridge is not required in lead storage cell?

Q5. What are the reactions taking place at anode & cathode in $H_2 - O_2$ fuel cell?

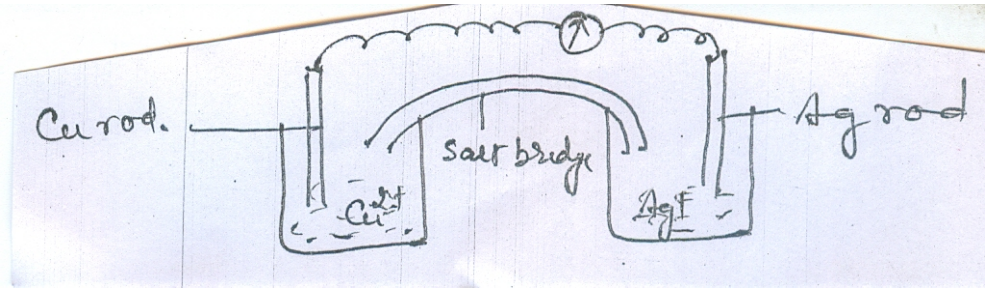
Q6. Why does a dry cell become dead after a long time even it has not been used?

Q7. Can we use a copper vessel to store $MAgNO_3$ solution? Given $E^{-}Ag^{+}/Ag = 0.80V$.

Q8. Unlike dry cell, the mercury cell has a constant cell potential throughout its useful life. Why?

Q9. Derive the relationship between:
(a) Conductivity and molar conductivity
(b) Standard cell potential and equilibrium constant.

Q10. Consider the electrochemical cell given in the diagram and answer the following questions:



(a) What is the net cell reaction?
(b) Mark the anode, cathode, positive and negative terminals.
(c) Mark the direct flow of e^{-}
(d) What is contained in salt bridge?
(e) When will the cell stop working?
(f) What happens when the concentration Cu^{2f} and Ag^{+} ions are increased?

Q11. Mobility of H^{+} ions is high through the ice than the liquid water.

Q12. Which of the following pairs will have higher conductance and why?
(a) Copper wire and acetic acid solution at 25^0C
(b) Copper wire at 25^0C and copper wire at 50^0C
(c) 0.1M acetic acid solution or 1M acetic acid solution

Q13. What are the reactions taking place at anode and cathode in $H_2 - O_2$ fuel cell?

Q14. What is the relationship between G & Ecell?

Q15. What happens to the density of electrolyte when lead storage battery is discharged?

Q16. Why is alternating current used for measuring resistances of an electrolytic solution?

Q17. Do we get same products during electrolysis of (a) molten NaCl & (b) aqueous NaCl?

Q18. If a current of 0.20 A is passed through 50 ml of M/10 NaCl solution for 10 minutes, calculate the concentration of OH^- ions in the solution after the electrolysis.

Q19. The value of Λ_M^{α} of $Al_2(SO_4)$ is 858 $Scm^2\ mol^{-1}$ while $\Lambda^0_{SO_4^2}$ is $160Scm^2\ mol^{-1}$ calculate the limiting ionic conductivity of Al^{3+}

Q20. The electrical resistance of diameter 1cm and length 50cm is 5.55 X $10^{3}\Omega\cdot$ Calculate its resistivity, conductivity and molar conductivity.

Solids

Q1. Copper crystallizes in a f.c.c. structure. Atomic radius of an atom of copper is 128pm. Calculate the density of Cu. [At. mass of Cu = 635]

Q2. The density of KBr is 2.75g/cc. The length of the edge of unit cell is 654pm. Predict the type of unit cell. [aT. mass of K = 39, Br = 80, N = t.023 A1023]

Q3. CsCl has cubic structure. Its density is 3.99g/cc. What is the distance between Cs^+ & Cl^-? [At. mass of Cs = 133]

Q4. Calculate the value of Avagadro's No. from the following data:
Density of NaCl = 2.165g/cc, distance between Na^+ & Cl^- in NaCl = 281pm.

Q5. Silver crystallizes with f.c.c. unit cells. Each side of the unit cell has a length of 409pm. What is the radius of an atom of silver?

Q6. Xenon crystallizes in f.c.c. lattice and edge of the unit cell is 620 pm. What is the nearest neighbour distance ℓ. What is the radius of xenon atom? [438.5 pm ℓ 219.25 pm]

Q7. The two ions A^+ & B^- have radii 88 & 200 pm respectively. In the closed packed crystal of compound AB, predict the coordination no. of A^+.

Q8. In a crystalline solid, anions base arranged in ccp lattice. Cations A are equally distributed between octahedral and tetra hedral vois. If all the octa hedral voids are occupied what is formula of solid?

Q9. A solid A^+ B^- has NaCl type structure. If the anion has the radius of 241.5 pm, what should be radius of cation? Can a cation C^+ having radius of 50 pm be fitted into the tetrahedral hole of the crystal A^+ B^-?

Q10. Give reason:
(a) Why is Frenkel defect found in AgCl?
(b) What is the difference between phosphorus doped and gallium doped semi conductors?

Q11. $CaCl_2$ will introduce Schottky defect if added to AgCl crystal. Explain.

Q12. Why does ZnO exhibit enhanced electrical conductivity upon heating?

Q13. The electrical conductivity of metal decreases while that of semi conductor increases with increase in temperature. Explain

Solutions

Q1. O_2 bubbled through water at 293K. Assuming that O_2 exists a partial presence of 0.98 bar, calculate the solubility of O_2 in g/l. The value of K_4 for O_2 is 34.84 R bar.

Q2. An aq. Solution of glucose is made by dissolving 10g of glucose in 90g of water at 303K. If the V.P. of pure water at 303K is 32.8 Hg, what would be the V.P. of solution?

Q3. Differentiate between diffusion & osmosis.

Q4. Calculate the freezing point of aq. Solution containing 10.50g of $MgBr_2$ in 200g of water. K_f for H_2O is 186K kg mol^{-1} & M.M. of $MgBr_2$ = 184

Q5. 1.2% solution of NaCl is isotonic with 7.2% solution of glucose (MM = 180). Calculate the degree of dissociation and Van't Hoff factor for NaCl solution.

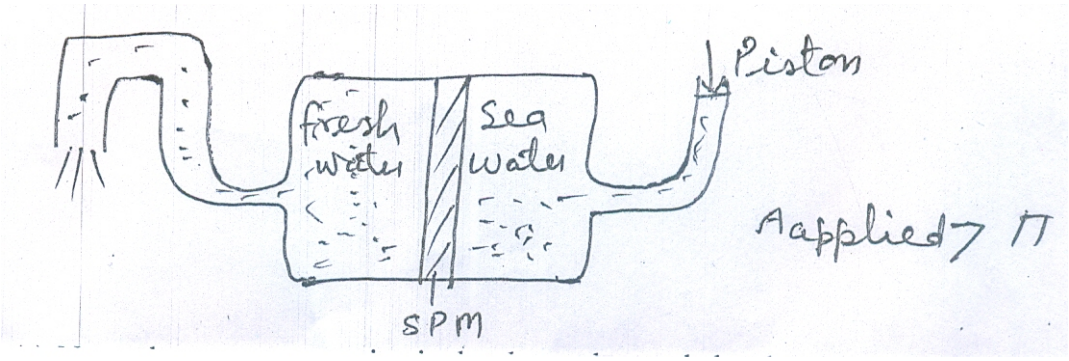
Q6. State Thenry's law for solubility of gases in liquid. At the same temperature, hydrogen is more soluble in water than helium. Which of them has higher value of K_H & why?

Q7. 0.5M aqueous solution of sodium chloride show higher value of osmotic pressure than 0.5M glucose solution at the same temperature, why?

Q8. Why do aquatic species remain more comfortable in lakes in winter than in summer?

Q9. What happens when red blood corpuscles (R.B.C.) are placed in
(a) 0.5% NaCl solution
(b) 1% NaCl solution

Q10. The figure gives a rough sketch of a plant for carrying out some process



(a) Name the process occurring in the above plant and also the phenomenon.
(b) To which container does the net flow of purified water occurs?
(c) Name the SPM that can be used in this plant.

Q11. How does sprinkling of salt of $CaCl_2$ help in clearing the snow-covered roads in hilly areas?

Q12. Why do we have feeling of weakness of discomfort in breathing at high altitude?

Q13. Cutting onion taken from refrigerator is relatively more comfortable than that lying at room temperature, why?

Q14. Why soda water bottle kept of room temperature fizz out on opening?

Q15. What re azeotropes? Give one example each of minimum boiling and maximum boiling azeotrope.

Q16. What are antifreeze solution? Which substance is commonly used as antifreeze?

Q17. Why are aquatic species more comfortable in cold water as compared to warm water?

Q18. Why the use of pressure cooker reduces cooking time?

Q19. What is the effect of temperature on the following:
(a) Molarity (b) molality (c) mole fraction

Q20. Why common salt is added to water used for boiling eggs to get hard boiled eggs?

BIOLOGY

A) Assignment

Q.1 Why did Mendel choose pea as experimental material?

Q.2 A woman with blood group O married a man with AB group. Show the possible blood groups of the progency. List the alleles involved in this ubgerutabce.

Q.3 A plant of Antirrhinum magus with red flowers was crossed with another plant of the somespecies with white flowers. The plants of F_1 generation bore pink flowers. Explain the pattern of inheritance with the help of a cross.

Q.4 A tall Pea plant with yellow seeds (Heterozygous for both) is crossed with a dwarf Pea plant with green seeds. Using a punetl square work out the cross to show the phenotypes and genotypes of F_1 generation.

Q.5 A man with blood group A married a woman with B group. They have a son with AB blood group and daughter with blood group O. work out the cross and show the possibility of such inheritance.

Q.6 Differentiate between the following

a) Dominance and recessive

b) Homozygous and Heterozygous

c) Monohybrid and dihybrid

Q.7 Explain the following terms with examples

a) Co-dominance b) incomplete dominance

Q.8 How is sex determined in human beings?

Q.9 Briefly mention the contribution of T.H. Morgan in genetics.

Q.10 Define and design a test cross.

Q.11 What is linkage? Under what condition the recombinants and the parental forms will be 50%.

Q.12 Which Mendel's law of inheritance is universally acceptable and without any exception? State the law.

Q.13a) In human's males are heterogametic and females are homogametic. Explain. Are there any examples (other than humans) where males are homogametic and females heterogametic.

b) Describe as to who determines the sex of an unborn child? Mention whether Temperature has a role in sex determination.

Q.14 What is linkage? Give different types of linkage. Explain with the help of example.

B) Make an investigatory project on the topics given below as a sample.

a) Effect of detergents on the growth of plants.

b) Effect of manures and fertilizers on the growth of plant

c) To study the breaking of seed dorm any by

a) Cytokinins

b) Ethylene

c) Water

d) KNO_3

Make a project file with original photographs taken while performing the experiment. The project file should have following contents

a) Introduction

b) Methodology

c) Experiment and observation

d) Result and Conclusion

e) Bibliography

PSYCHOLOGY

1. Collect data for a "Case Profile"- an in-depth study of any individual around your neighborhood including his/her demographic details, family history, professional history, peer group, hobbies and interest or any other relevant information or data.
2. Collect the case studies carrying relevant symptoms of the below mentioned disorders. (at least two case studies of each disorder)
   a) Bipolar Mood Disorder
   b) Obsessive Compulsive Disorder
   c) Generalized Anxiety Disorder
   d) Eating Disorder
   e) ADHD (ATTENTION DEFICIT HYPERACTIVITY DISORDER)
3. Complete the following assignment of chapter 1 and 2.

CHAPTER 1: VARIATIONS IN PSYCHOLOGICAL ATTRIBUTES

1. Differentiate between Psychometric Approach and Information-Processing Approach. Mention the names of different intelligence theories that come under each approach.
2. The IQ of a 6 year old boy with MA 8 is _____.
3. The MA of an 8 year old boy with IQ = 80 is _____. (hint: MA=IQ/CA X 100)
4. Describe the theories of Primary Mental Abilities.
5. Explain the Uni-factor theory of Intelligence. Why it was not accepted?
6. Differentiate between Integral Intelligence and Technological Intelligence.
7. Explain the Concept of "Budhi"..
8. Elucidate the differences in various areas of functioning at different levels of mental retardation.
9. Discuss the influence of heredity and environment on intelligence.
10. How are Programs aimed at improving emotional intelligence are beneficial for students.
11. How is interest different from aptitude? Which of the two is important in deciding about one's career?
12. How is creativity related to intelligence? Support your answer with the help of researches.
13. Define emotional intelligence. Write the characteristics of emotionally intelligent people.
14. Explain the intelligence theory given by Charles Spearman.
15. Write a detailed account of intelligence testing.
    (Hint: On the basis of administration: group or individual test
    on the basis of nature of items: verbal, non-verbal or performance
    On the basis of culture: culture free or culture biased)

CHAPTER 2: SELF AND PERSONALITY

1. What is self. Describe different kind of self.

2. Explain the following terms with example
3. Self-esteem
4. Self-regulation
5. Self-efficacy
6. Explain the concept of Personality. Write its characteristics.
7. Write and explain different approaches to personality. Write the names of the theories that come under each approach.
   (Hint: type, trait and interactional)
8. Explain in detail
   - the Allport's Trait theory.
   - Raymond Cattell's Personality theory.
   - five factor model
   - Eyesenck's personality theory
9. Explain any five Ego Defence Mechanisms given by Sigmund Freud.
10. What are different techniques that are commonly used as personality assessment?
    (Hint: From page no. 42 NCERT book)
11. What are Projective techniques? Explain any 4 projective techniques that are commonly used in personality assessment.
    (Hint: from page no. 43)
12. How can behavioural analysis can be used to assess personality?

(Hint: from page no. 46 ncert book)

Computer Science

Topics covered

1) **SQL**
2) **Classes and objects**
3) **Constructors and destructors**
4) **Review of class XI**
5) **Networking**

1. Consider the following tables FACULTY and COURSES. Write SQL commands for the statements (i) to (v) and give outputs for SQL queries (vi) to (viii)

FACULTY

F_ID	Fname	Lname	Hire_date	Salary
102	Amit	Mishra	12-10-1998	12000
103	Nitin	Vyas	24-12-1994	8000
104	Rakshit	Soni	18-5-2001	14000
105	Rashmi	Malhotra	11-9-2004	11000
106	Sulekha	Srivastava	5-6-2006	10000
107	Niranjan	Kumar	26-8-1996	16000

COURSES

C_ID	F_ID	Cname	Fees
C21	102	Grid Computing	40000
C22	106	System Design	16000
C23	104	Computer Security	8000
C24	106	Human Biology	15000
C25	102	Computer Network	20000
C26	105	Visual Basic	6000

C27	107	Dreamweaver	4000

i) To display details of those Faculties whose salary is greater than 12000.
ii) To display the details of courses whose fees is in the range of 15000 to 50000 (both values included).
iii) To increase the fees of all courses by 500.
iv) To display details of those courses which are taught by 'Sulekha'.
v) To display name of the Faculty whose salary is maximum.
vi) Select COUNT(DISTINCT F_ID) from COURSES;
vii) Select MIN(Salary) from FACULTY,COURSES where COURSES.C_ID = FACULTY.F_ID;
viii) Select SUM(Fees) from courses Group By F_ID having count(*) > 1;
ix) Select Fname, Lname from FACULTY Where Lname like "M%";

2. Study the following tables DOCTOR and SALARY and write SQL commands for the questions (i) to (iv) and give outputs for SQL queries (v) to (vi):

TABLE : DOCTOR

ID	NAME	DEPT	SEX	EXPERIENCE
101	John	ENT	M	12
104	Smith	ORTHOPEDIC	M	5
107	George	CARDIOLOGY	M	10
114	Lara	SKIN	F	3
109	K George	MEDICINE	F	9
105	Johnson	ORTHOPEDIC	M	10
117	Lucy	ENT	F	3
111	Bill	MEDICINE	F	12
130	Morphy	ORTHOPEDIC	M	15

TABLE : SALARY

1D	BASIC	ALLOWANCE	CONSULTATION
101	12000	1000	300
104	23000	2300	500
107	32000	4000	500
114	12000	5200	100
109	42000	1700	200
105	18900	1690	300
130	21700	2600	300

i) Display NAME of all doctors who are in "MEDICINE" having more than 10 years experience from the table DOCTOR.

ii) Display the average salary of all doctors working in "ENT" department using the tables DOCTOR and SALARY. Salary = BASIC + ALLOWANCE

iii) Display the minimum ALLOWANCE of female doctors.

iv) Display the highest consultation fee among all male doctors.

v) To display records of all the doctors in ascending order of experience.

vi) SELECT count(*) from DOCTOR where SEX = "F"

vii) SELECT NAME, DEPT, BASIC from DOCTOR, SALARY where DEPT = "ENT" and DOCTOR.ID = SALARY.ID

3. Define a class named ADMISSION in C++ with the following descriptions:

Private members:

AD_NO integer (Ranges 10 - 2000)
NAME Array of characters (String)
CLASS Character
FEES Float

Public Members:

- Function Read_Data ( ) to read an object of ADMISSION type
- Function Display() to display the details of an object
- Function Draw_Nos ( ) to choose 2 students randomly.
- And display the details. Use random function to generate admission nos. to match with AD_NO.

4. Define a class **Employee** in C++ with the following specification:

Private Members:

ename an array of char of size[50] (represent employee name)

deptname an array of char of size[20] (represent department name)

salary integer (represent total salary of an employee)

bonus float

CalBonus() This function calculate the total bonus given to an employee according to following conditions

Deptname	Bonus
Accounts	4 % of salary
HR	5% of salary
IT	2% of salary
Sales	3% of salary
Marketing	4% of salary

Public Members:

- Constructor to initialise ename and deptname to NULL and salary and bonus to 0.
- A function read_info to allow user to enter values for ename, deptname,salary & Call function CalBonus() to calculate the bonus of an employee.
- A Function disp_info() to allow user to view the content of all the data members

5. Define a class **Directory** with the following Specification:
Private members:

Docunames an array of string of size [10][25]

(to represent all the names of Documents inside Directory)

Freespace long (to represent total number of bytes available in Directory)

Occupied long (to represent total number of bytes used in Directory)

Public members

Newdocumentry( ) A function to accept values of Docunames, Freespace

and Occupied from user.

Retfreespace( ) A function that returns the values of total kilobytes available
(1 Kilobyte= 1024 bytes)

Showfiles ( ) A function that display the names of all the documents in directory

6. Find the output of the following program:

a.
```
#include<iostream.h>
void main()
{    long Number = 7583241;
     int First=0, Second=0;
     do
    {    int R=Number%10;
      if (R%2==0)
     First+=R;
   else
        Second+=R;
  Number /=10;
  } while (Number>O);
  cout<<First-Second;
}
```

b.
```
#include<string.h>
#include<iostream.h>
#include<ctype.h>
   void change(char msg[ ], int len)
  {
   for( int count=0;count< len;count++)
  {
   if(islower(msg[ count]))
   msg[count]=toupper(msg[count]);
  else if(isupper(msg[ count]))
   msg[count]=tolower(msg[count]);
  else if(isdigit(msg[ count]))
   msg[count]=msg[count]+1;
  else
     msg[count]= '*';
   }
  }
void main( )
  {
     char message[ ]= " 15th AugusT CelebratED";
     int size= strlen( message);
     change(message,size);
     cout<<message<<endl;
```

```
        for( int c=0;,r=size-1;c<=size/2; c++,r--)
    {
        char temp=message[c];
         message[c]=message[r];
         message[r]=temp;
    }
       cout<<message<<endl;
```

c.
```
       #include<iostream.h>
        int func( int &x,int y=10)
    {
        if(x%y==0) return ++X; else return y- -;
     }
        void main( )
     {
         int p=20, q=23;
        q= func(p,q);
        cout<<p<<q<<endl;
        p= func(q);
        cout<<p<<q<<endl;
       q= func(p);
       cout<<p<<q<<endl;
```

d.
```
      # include < iostream.h>

        void Withdef (int HisNum = 30)

        {

        for (int 1=20 ; I<*= HisNum; I+=5)

        cout<<I<<"";

        cout<<endl;

        }

        void Control (int &MyNum)

        {

        MyNum+=10;

        Withdef(MyNum);
```

```
        }
        void main ()
        {
        int YourNum=20;
        Control (YourNum);
        Withdef();
        cout<<"Number="<<YourNum<<endl;
        }
```

e.
```
#include <iostream.h>
 struct Pixel
{
        int c,r;
};
void display(Pixel p)
{
        cout<<"Col "<<p.c<<" Row "<<p.r<<endl;
}
void main()
{
        Pixel x = = {40,50}, y, z;
        z= x;
        x.c = x.c + 10;
        y = z;
        y.c = y.c + ;
```

```
    y.r = y.r + 20;

    z.c = z.c – 15;

    display(x);

    display(y);

    display(z);

}
```

7. Rewrite the following program after removing the syntactical error , if any. Under line each correction.

i)
```
#include<iostream.h>
const int Devidor 5;
void amin( )

{

Number=15; for(int count=1;
 count<=5;count++) if( Number/ Devidor= = 0)
 cout<<Number/Devidor; cout<<endl;

 Else
  cout<< Number+Devidor<<endl;
```

ii)
```
# include <iostream.h>

const int Max 10;

void main ( )

{

int Numbers [Max];

Numbers = { 20, 50,10, 30,40 } ;

for (Loc= Max-1 ; Loc > = 0 ; Loc - -)

cout>>Numbers [Loc]; }
```

8. In the following C++ program what is the expected value of Myscore from Options (i) to (iv) given below. Justify your answer.

a.
```
#include<stdlib.h>
#include<iostream.h>
void main( )
{
randomize();
int Score[] = {25,20,34,56, 72, 63}, Myscore;
Myscore = Score[2 + random(2)];
cout<<Myscore<<endl; }
```

(i) 25

(ii) 34

(iii) 20

(iv) None of the above

b. Observe the following program RANDNUM.CPP carefully. If the value of VAL entered by the user is 10, choose the correct possible output(s) from the options from i) to iv) and justify your option.

```
//program RANDNUM.CPP
#include<iostream.h>
#include<stdlib.h>
#include<time.h>
void main()
{
        randomize();
        int VAL, Rnd; int n=1;
        cin>>VAL;
```

```
                Rnd=8 + random(VAL) * 1;
                while(n<=Rnd)
                {
                        cout<<n<< "\t";
                        n++;
                }
        }
```

output options:

i) 1 2 3 4 5 6 7 8 9 10 11 12 13

ii) 0 1 2 3

iii) 1 2 3 4 5

iv) 1 2 3 4 5 6 7 8

9. Define the following:

a) Primary Key b) Candidate Key c) Alternate Key d) Foreign Key e) Tuple

f) Attribute g) Cardinality h)Degree i) Relation.

10. List any four advantages of DBMS.

11. List any for RDBMS packages.

12. Answer the questions i) and ii) after going through the following class :

```
#include<iostream.h>
#include<string.h>
#include<stdio.h>
class wholesale
{ char categ[20],item[30];
  float pr;
   int qty;
```

```
        wholesale( )                    // Function 1
        { strcpy(categ ,"Food");
          strcpy(item,"Biscuits");
          pr=150.00;
          qty=10 }
    public :
        void SHOW( )                    //Function 2
        {
        cout<<categ<<"#"<<item<<":"<<pr<<"@"<<qty<<endl;
        }
        };
void main( )
{ wholesale ob;                         //Statement 1
 ob.SHOW( );                            //Statement 2
}
```

i) Will ***statement 1*** initialize all the data members for object **ob** with the values given in ***function 1***?(Y/N). Justify your answer suggesting the corrections to be made in the above code.

ii) What shall be the possible output when the program gets executed? (Assuming, if required-the suggested correction(s) are made in the program.

13. Answer the questions (i) and (ii) after going through the following program:

```
class Match
{       int Time;
  public:
        Match()//Function 1
        {
```

```
        Time = 0;
        cout<<"Match commences "<<endl;
    }
    void Details()    //Function 2
    {
        cout<<"Inter Section Basketball Match"<<endl;
    }
    Match(int Duration)      //Function 3
    {
        Time = Duration;
        cout<<"Another match begins now"<<endl;
    }
    Match(Match &M)       //Function 4
    {
        Time = M.Duration;
        Cout<<"Like Previous Match"<<endl;
    }
};
```

i) Which category of constructor – Function 4 belongs to and what is the purpose of using it?
ii) Write statements that would call the member Functions 1 and 3.

14.. Revise the notes of networking.

Accountancy

General Instructions:

a) *Holidays home work has been divided into two parts. Part A is assignment questions from Partnership Accounts and Part B is Comprehensive Project*

b) *Holidays home work is to be done in a separate register including comprehensive project and is to be submitted on 1st July 2015*

PART-A (PARTNERSHIP ACCOUNTS)

1. A, B, C were partners in a firm sharing profits in 3:2:1 ratio. They admitted D for 10% profits. Calculate the new profit sharing ratio?

2. X and Y are partners sharing profits in 5:3 ratio admitted Z for 1/10 share which he acquired equally for X and Y. Calculate new profit sharing ratio?

3. A, B and C are partners sharing profits in 2:2:1 ratio admitted D for 1/8 share which he acquired entirely from A. Calculate new profit sharing ratio?

4. A, B and C were partners in a firm sharing profits in 3:3:2 ratio. They admitted D as a new partner for 4/7 profit. D acquired his share 2/7 from A. 1/7 from B and 1/7 from C. Calculate new profit sharing ratio?

5. Radha and Rukmani are partners in a firm sharing profits in 3:2 ratio. They admitted Gopi as a new partner. Radha surrendered 1/3 of her share in favour of Gopi and Rukmani surrendered 1/4 of her share in favour of Gopi. Calculate new profit sharing ratio?

6. Rao and Swami are partners in a firm sharing profits and losses in 3:2 ratio. They admit Ravi as a new partner for 1/8 share in the profits. The new profit sharing ratio between Rao and Swami is 4:3. Calculate new profit sharing ratio and sacrificing ratio?

7. The books of Ram and Bharat showed that the capital employed on 31.12.2010 was ₹5,00,000 and the profits for the last 5 years : 2010 ₹40,000; 2011 ₹50,000; 2012 ₹55,000; 2013 ₹70,000 and 2014 ₹85,000. Calculate the value of goodwill on the basis of 3 years purchase of the average super profits of the last 5 years assuming that the normal rate of return is 10%?

8. Rajan and Rajani are partners in a firm. Their capitals were Rajan₹3,00,000; Rajani ₹2,00,000. During the year 2014 the firm earned a profit of₹1,50,000. Calculate the value of goodwill of the firm assuming that the normal rate of return is 20%?

9. Rishi is a partner in a firm. He withdrew the following amounts during the year ended March 31, 2015.

May 01, 2014	₹ 12,000
July 31, 2014	₹ 6,000
September 30, 2014	₹ 9,000
November 30, 2014	₹ 12,000
January 01, 2015	₹ 8,000
March 31, 2015	₹ 7,000

Interest on drawings is charged @ 9% p.a. Calculate interest on drawings

10. Menon and Thomas are partners in a firm. They share profits equally. Their monthly drawings are ₹ 2,000 each. Interest on drawings is to be charged @ 10% p.a. Calculate interest on Menon's drawings for the year 2014, assuming that money is withdrawn:
    (i) in the beginning of every month,
    (ii) in the middle of every month, and
    (iii) at the end of every month.

11. Sunflower and Pink Rose started partnership business on April 01, 2014 with capitals of ₹2,50,000 and ₹1,50,000, respectively. On October 01, 2014, they decided that their capitals should be ₹2,00,000 each. The necessary adjustments in the capitals are made by introducing or withdrawing cash. Interest on capital is to be allowed @ 10% p.a. Calculate interest on capital as on March 31, 2015.

12. Radha, Mary and Fatima are partners sharing profits in the ratio of 5:4:1. Fatima is given a guarantee that her share of profit, in any year will not be less than ₹5,000. The profits for the year ending March 31, 2014 amounts to ₹35,000. Shortfall if any, in the profits guaranteed to Fatima is to be borne by Radha and Mary in the ratio of 3:2. Record necessary journal entry to show distributioin of profit among partner.

13. The firm of Harry, Porter and Ali, who have been sharing profits in the ratio of 2 : 2 : 1, have existed for same years. Ali wants that he should get equal share in the profits with Harry and Porter and he further wishes that the change in the profit sharing ratio should come into effect retrospectively were for the last three year. Harry and Porter have agreement on this account. The profits for the last three years were:

	(₹)
2011-10	22,000
2012-11	24,000

2013-12 29,000

Show adjustment of profits by means of a single adjustment journal entry.

14. Harshad and Dhiman are in partnership since April 01, 2014. No Partnership agreement was made. They contributed ₹4,00,000 and ₹1,00,000 respectively as capital. In addition, Harshad advanced an amount of ₹1,00,000 to the firm, on October 01, 2014. Due to long illness, Harshad could not participate in business activities from August 1, to September 30, 2014. The profits for the year ended March 31, 2014 amounted to ₹1,80,000. Dispute has arisen between Harshad and Dhiman.

Harshad Claims:

(i) he should be given interest @ 10% per annum on capital and loan;

(ii) Profit should be distributed in proportion of capital;

Dhiman Claims:

(i) Profits should be distributed equally;

(ii) He should be allowed ₹2,000 p.m. as remuneration for the period he managed the business, in the absence of Harshad;

(iii) Interest on Capital and loan should be allowed @ 6% p.a.

You are required to settle the dispute between Harshad and Dhiman. Also prepare Profit and Loss Appropriation Account.

15. Anubha and Kajal are partners of a firm sharing profits and losses in the ratio of 2:1. Their capital, were ₹90,000 and ₹60,000. The profit during the year were ₹45,000. According to partnership deed, both partners are allowed salary, ₹700 per month to Anubha and ₹500 per month to Kajal. Interest allowed on capital @ 5%p.a. The drawings at the end of the period were ₹8,500 for Anubha and ₹6,500 for Kajal. Interest is to be charged @ 5% p.a. on drawings. Prepare Profit & Loss Appropriation A/c and Partners Capital A/cs, assuming that the capital accounts are fluctuating.

16. The partnership agreement between Maneesh and Girish provides that:

(i) Profits will be shared equally;

(ii) Maneesh will be allowed a salary of ₹400 p.m;

(iii) Girish who manages the sales department will be allowed a commission equal to 10% of the net profits, after allowing Maneesh's salary;

(iv) 7% interest will be allowed on partner's fixed capital;

(v) 5% interest will be charged on partner's annual drawings;

(vi) The fixed capitals of Maneesh and Girish are ₹1,00,000 and Rs. 80,000, respectively. Their annual drawings were ₹16,000 and 14,000, respectively. The net profit for the year ending March 31, 2014 amounted to ₹40,000; Prepare firm's Profit and Loss Appropriation Account.

17. Simmi and Sonu are partners in a firm, sharing profits and losses in the ratio of 3:1. The profit and loss account of the firm for the year ending March31,2014 shows a net profit of ₹1,50,000. Prepare the Profit and Loss Appropriation Account by taking into consideration the following information:
    (i) Partners capital on April 1, 2013;
    Simmi, ₹30,000; Sonu, ₹60,000;
    (ii) Current accounts balances on April 1, 2013;
    Simmi, ₹30,000 (cr.); Sonu, ₹15,000 (cr.);
    (iii) Partners drawings during the year amounted to
    Simmi, ₹20,000; Sonu, ₹15,000;
    (iv) Interest on capital was allowed @ 5% p.a.;
    (v) Interest on drawing was to be charged @ 6% p.a. at an average of six months;
    (vi) Partners' salaries : Simmi ₹12,000 and Sonu ₹9,000. Also show the partners' current accounts.

18. Verma and Sharma are partners in a firm sharing profits and losses in the ratio of 5:3. They admitted Ghosh as a new partner for 1/5 share of profits. Ghosh is to bring in ₹20,000 as capital and ₹4,000 as his share of goodwill premium. Give the necessary journal entries:
    a) When the amount of goodwill is retained in the business.
    b) When the amount of goodwill is fully withdrawn.
    c) When 50% of the amount of goodwill is withdrawn.
    d) When goodwill is paid privately.

19. Aditya and Balan are partners sharing profits and losses in 3:2 ratio. They admitted Christopher for 1/4 share in the profits. The new profit sharing ratio agreed was 2:1:1. Christopher brought ₹50,000 for his capital. His share of goodwill was agreed to at ₹15,000. Christopher could bring only ₹10,000 out of his share of goodwill. Record necessary journal entries in the books of the firm?

20. Amar and Samar were partners in a firm sharing profits and losses in 3:1 ratio. They admitted Kanwar for 1/4 share of profits. Kanwar could not bring his share of goodwill premium in cash. The Goodwill of the firm was valued at ₹80,000 on Kanwar's admission. Record necessary journal entry for goodwill on Kanwar's admission.

21. A and B are partners sharing profits and losses in the ratio of 3:1. On Ist Jan. 2015 they admitted C as a new partner for 1/4 share in the profits of the firm. C

brings ₹20,000 as for his 1/4 share in the profits of the firm. The capitals of A and B after all adjustments in respect of goodwill, revaluation of assets and liabilities, etc. has been worked out at ₹50,000 for A and ₹12,000 for B. It is agreed that partner's capitals will be according to new profit sharing ratio. Calculate the new capitals of A and B and pass the necessary journal entries assuming that A and B brought in or withdrew the necessary cash as the case may be for making their capitals in proportion to their profit sharing ratio?

22. Pinky, Qumar and Roopa partners in a firm sharing profits and losses in the ratio of 3:2:1. S is admitted as a new partner for 1/4 share in the profits of the firm, whichs he gets 1/8 from Pinky, and 1/16 each from Qmar and Roopa. The total capital of the new firm after Seema's admission will be ₹2,40,000. Seema is required to bring in cash equal to 1/4 of the total capital of the new firm. The capitals of the old partners also have to be adjusted in proportion of their profit sharing ratio. The capitals of Pinky, Qumar and Roopa after all adjustments in respect of goodwill and revaluation of assets and liabilities have been made are Pinky ₹80,000, Qumar ₹30,000 and Roopa ₹20,000. Calculate the capitals of all the partners and record the necessary journal entries for doing adjustments in respect of capitals according to the agreement between the partners?

23. The following was the Balance Sheet of Arun, Bablu and Chetan sharing profits and losses in the ratio of $\frac{6}{14}:\frac{5}{14}:\frac{3}{14}$ respectively.

Liabilites		*Amount (Rs.)*	*Assets*	*Amount (Rs.)*
Creditors		9,000	Land and Buildings	24,000
Bills Payable		3,000	Furniture	3,500
Capital Accounts			Stock	14,000
Arun	19,000		Debitors	12,600
Bablu	16,000		Cash	900
Chetan	8,000	43,000		
		55,000		**55,000**

They agreed to take Deepak into partnership and give him a share of 1/8 on the following terms: (a) that Deepak should bring in ₹4,200 as goodwill and ₹7,000 as his Capital; (b) that furniture be depreciated by 12%; (c) that stock be depreciated by 10% (d) that a Reserve of 5% be created for doubtful debts: (e) that the value of land and buildings having appreciated be brought upto ₹31,000 ;(f) that after making the adjustments the capital accounts of the old partners (who continue to share in the same proportion as before) be adjusted on the

basis of the proportion of Deepak's Capital to his share in the business, i.e., actual cash to be paid off to, or brought in by the old partners as the case may be.

Prepare Cash Account, Profit and Loss Adjustment Account (Revaluation Account) and the Opening Balance Sheet of the new firm.

24. Azad and Babli are partners in a firm sharing profits and losses in the ratio of 2:1. Chintan is admitted into the firm with 1/4 share in profits. Chintan will bring in ₹30,000 as his capital and the capitals of Azad and Babli are to be adjusted in the profit sharing ratio. The Balance Sheet of Azad and Babli as on December 31, 2014 (before Chintan's admission) was as follows:

Balance Sheet of A and B as on 31.12.2014

Liabilites		*Amount (Rs.)*	*Assets*	*Amount (Rs.)*
Creditors		8,000	Cash in hand	2,000
Bills payable		4,000	Cash at bank	10,000
General reserve		6,000	Sundry debtors	8,000
Capital accounts:			Stock	10,000
Azad	50,000		Funiture	5,000
Babli	32,000	82,000	Machinery	25,000
			Buildings	40,000
		1,00,000		**1,00,000**

It was agreed that:

i) Chintan will bring in ₹12,000 as his share of goodwill premium.

ii) Buildings were valued at ₹45,000 and Machinery at ₹23,000.

iii) A provision for doubtful debts is to be created @ 6% on debtors.

iv) The capital accounts of Azad and Babli are to be adjusted by opening current accounts.

Record necessary journal entries, show necessary ledger accounts and prepare the Balance Sheet after admission.

25. Ashish and Dutta were partners in a firm sharing profits in 3:2 ratio. On Jan. 01, 2015 they admitted Vimal for 1/5 share in the profits. The Balance Sheet of Ashish and Dutta as on Jan. 01, 2015 was as follows:

Balance Sheet of A and B as on 1.1.2015

Liabilites	*Amount (Rs.)*	*Assets*		*Amount (Rs.)*
Creditors	15,000	Land & Building		35,000
Bills Payable	10,000	Plant		45,000
Ashish Capital	80,000	Debtors	22,000	
Dutta's Capital	35,000	Less : Provision	2,000	20,000
		Stock		35,000
		Cash		5,000
	1,40,000			**1,40,000**

It was agreed that:

i) The value of Land and Building be increased by ₹15,000.

ii) The value of plant be increased by 10,000.

iii) Goodwill of the firm be valued at ₹20,000.

iv) Vimal to bring in capital to the extent of 1/5th of the total capital of the new firm.

Record the necessary journal entries and prepare the Balance Sheet of the firm after Vimal's admission.

PART-B (COMPREHENSIVE PROJECT)

Guidelines for making Comprehensive Project

1. Select a business form from the following list of options:
   - (i) A beauty parlour
   - (ii) Men's saloon
   - (iii) A tailoring shop
   - (iv) A canteen
   - (v) A cake shop
   - (vi) A confectionery shop
   - (vii) A chocolate shop
   - (viii) A dry cleaner
   - (ix) A stationery shop
   - (x) Men's wear
   - (xi) Ladies wear
   - (xii) Kiddies wear
   - (xiii) A saree shop
   - (xiv) Artificial jewellery shop
   - (xv) A small restaurant
   - (xvi) A sweet shop

(xvii) A grocery shop
(xviii) A shoe shop
(xix) A coffee shop
(xx) A music shop
(xxi) A juice shop
(xxii) A school canteen
(xxiii) An ice cream parlour
(xxiv) A sandwich shop
(xxv) A flower shop

Sanction a capital amount for business.

After selection, you should see a shop in the locality (this will help to settle on a realistic amount for rent). You would be able see the things required to invest in (Furniture, décor, lights, machines, computers…..)

As you are familiar with the various types of accounts, it will help you to list the accounts with realistic figures (add to the list below)

(i) Rent
(ii) Advance rent (approximately three months)
(iii) Electricity deposit
(iv) Electricity bill
(v) Water bill
(vi) Water deposit
(vii) Water fittings
(viii) Telephone bill
(ix) Telephone instrument
(x) Furniture
(xi) Computers
(xii) Internet connection
(xiii) Stationery
(xiv) Advertisement
(xv) Glow sign
(xvi) Hoarding
(xvii) Prayer porting
(xviii) Newspaper and magazines
(xix) Pretty expenses
(xx) Tea expenses
(xxi) Packaging expenses
(xxii) Transport
(xxiii) Delivery cycle or a vehicle purchased
(xxiv) Registration
(xxv) Insurance
(xxvi) Auditors fee

(xxvii) Maintenance
(xxviii) Repairs
(xxix) Air conditioners
(xxx) Fans and lights
(xxxi) Interior decorations
(xxxii) Refrigerators

These are a few of the common expenses

Now think about the sales figures for the year

And divide by 360 to get an average figure for the sales for the day

This would be a very nice reality check and then accordingly change the annual sales figure.

Prepare a worksheet in the form of a Cash Book statement like

To Capital To Sales		By Salaries By Rent By Purchase By Electricity By Advertisement By Balance c/d	

- Write all the items of payments on the credit side
- Write the figure as realistic as possible
- Get a Cash Book Balance
- Make a Trial Balance for the Cash Book
- This should be very simple because all debits of cash book will go to the credit side of Trial Balance
- And all credits of Cash Book will go to the debit side of Trial Balance.

Particulars	Dr.	Cr.
Capital		
Cash		
Purchases		
Sales		
Electricity		
Salaries		
Rent		
Advertisement		

- Break up the cash balance into cash in hand, bank balance.
- Cash in hand need not be more than 2 days of sale (helps to relate liquidity and profitability).
- Once the trial balance tallies a lot of problems are taken care of.
- Now introduce the following four concepts.

1. Debtors
2. Creditors
3. Purchase Return
4. Sales return

Interestingly the above can be shown as

1. Debtors -3,00,000 add Dr side of Trial Balance and increase sales on the Cr side of Trial Balance
2. Creditors- 1,50,000a add Cr side of Trial Balance and increase purchases on the Dr side of Trial Balance.
3. Purchases return- add Cr side of Trial Balance and reduce creditors Cr side of Trial Balance [Same Side].
4. Sales return- add Dr side of Trial Balance and reduce debtors Dr side of Trial Balance.

Hence the Trial balance tallies once again.

Now put in adjustments:

<u>This can be five OR more from the following</u>

1. Closing Stock
   - Sweet shop/cake shop 1-2 days
   - In case of perishable goods around 2-3 days of purchase
   - Fashion items 2 months of purchase
   - Iron of wooden furniture- it can be 5 months also
2. Depreciation
   - All the fixed assets need to be depreciated
   - Depreciation should be related to their life span e.g. furniture of commercial shop as per the standards today changes in five years hence 20%.
   - Computers obsolete in 3 yrs hence 33- 1/3%.
   - Air conditioners say 10 yrs therefore 10% as the spans are different the rate can also be different as per logic
3. Outstanding expenses
4. Advances paid- very appropriate for rent/insurance
5. Bad Debt
6. Provision for bad and doubtful debts
7. Items for deferred revenue expenditure

With the support of the 'Cash Book' and Trial Balance (with Creditors, Debtors, Purchase Returns, Sales Returns) without adjustment prepare:

1. Comprehensive Story
2. Journal Entries
3. Ledger Accounts
4. Cash Book
5. Trial Balance
6. Adjustment Entries
7. Trading and Profit & Loss Account
8. Balance Sheet

This project work gives you an opportunity to peep into the real business world and observe and record activities going on there. Observation and process of investigation

- Independent thinking
- Presentation skills
- Co-relation
- Comprehending

Sample Comprehensive Project Problem

Ram and Raghav were twin brothers. Ram was interested in computers and would find time to always work on computers either at college or at his friend's place. His keen interest in the subject made him take up computer software for his degree course. He pleaded with his father Rangan and purchased a computer for his use at home. Raghav was always interested in sitting at his fathers' shop at the nearby market place selling electrical appliances. He would often go and help his father at the shop after college hours.

Mr. Rangan was happy that Raghav showed keen interest in his business but was worried about Ram who would always spend time with computers.

He felt that if the interest of the two sons be put together they could start a flourishing business of their own. The boom in the IT industry made him find ways to satisfy his sons' dreams.

After college, the twins were drifting apart due to varied interests. Rangan decided that this is the time for him to intervene and make decisions for them.

He decided to start a computer business for his sons.

He asked Raghav, a commerce graduate to draw up a proposal for the same.

Raghav came out with the following ideas:-

The area they lived in and run shop consisted of middle income group families and many of them did not possess computers at home.

Their shop could provide the following services:-

- Computer classes for various age groups.
- Computer using facilities on payment per hourly basis and printing of documents from computers
- Internet access facility at the prevailing market rates by entering into contract with VSNL.
- Computer games corner for children.

Ram jumped at the idea and they made up a common proposal. Ram wanted that they purchase 10 computers and start with first two areas of operation and expand when things go well.

The shop they had at the market place was a single storey building. Their father offered to build the first floor and give it to them for their business. He spent ₹ 1,00,000 on construction of the facility and gave them ₹ 2,50,000 for the business. The sons went to a bank and put up their proposal and managed to get a loan to the extent of 75 percent of the cost of computers with printers i.e. ₹ 4,00,000. As the bank manager was aware of the creditworthiness of Rangan, he advanced the loan of ₹ 3,00,000. Total amount to be repaid will be ₹ 3,60,000 including interest in three annual instalments as follows:-

- End of the first year = ₹ 1,30,000 (₹ 1,00,000 + 30,000 interest)
- End of the 2nd year = ₹ 1,20,000 (₹ 1,00,000 + 20,000 interest)
- End of the 3rd year = ₹ 1,10,000 (₹ 1,00,000 + 10,000 interest)

They started business on 1st April 2005. Raghav decided to deposit ₹ 2,40,000 in the bank.

They gave ₹ 1,00,000 to computer company as 25% of the value of computers purchased and ₹ 3,00,000 out of bank loan availed. They deposited ₹ 1,000 for the electrical connection with the Electricity Board. They paid a deposit of ₹ 1,00,000 with VSNL for the Internet connection. They used the telephone connection at the shop, as there were two connections at the shop. They got the computer café furnished by paying ₹ 25,000. Raghav got pamphlets printed and distributed at the cost of ₹ 45,00 in the surrounding colonies.
All payments were to be made by cheques. All the receipts were in cash to be deposited in the bank on the same day.

The students on an average paid a monthly fee of ₹ 500 for the three month computer evening classes.

There were a number of internet subscribers and receipts on account of internet facility was ₹ 10,000 a month in the first quarter on an average. They decided to buy and sell computer stationery also like floppy discs, CDs, etc.

At the end of the year, their results showed the following:-

-	Total revenue including sale of computer stationery	4,98,000
-	Purchases of computer stationery	55,000
-	Electricity charges yet to be paid.	1,24,000
-	Telephone charges	34,000
-	Petty expenses	12,000
-	Entertainment expenses	10,000
-	Maintenance expenses	10,000

There was a helper at their father's shop who agreed to clean up the computer café and fetch water to visitors. For the additional services, he was paid ₹ 500 per month.

They withdrew ₹ 3,000 by cheque each month for their personal expenses. They paid the bank loan regularly.

Father was pleased at his sons' efficiency.

He wanted to expand business.

(i) Journalize the above transactions. Post them into the ledger and prepare trial balance.
(ii) Prepare Profit & Loss A/c and Balance Sheet.
(iii) Charge depreciation at the rate of 25% on computers, 10% on furniture and 5% on buildings.
(iv) Calculate profitability ratios.
(v) They approached the bank for further loan. Compute the ratios that the banker will require before granting the loan. (Current ratio, quick ratio and debt equity ratio).
(vi) Comment on the efficiency of the business if the net profit ratio and gross profit ratio in similar type of business concerns are 20% and 50% respectively.

CHAPTER 1

Q.1 A company wants to modify its existing product in the market due to decreasing sales. What steps should each level of management take to give effect to this decision?

Q.2 Smart Industries is able to achieve the target production of 5,000 units within the prescribed period. However, to achieve the target on this, additional ` 41,000 were paid as overtime wages to employees. Do you think Smart Industries is effective and efficient in its working?

Q.3 "A business needs to add to its prospects in the long run. "Which organizational objective is highlighted in the statement? Mention two objectives under this category.

Q.4 Mc Donalds offers 'Aloo Tikki Burger' to attract Indian customers, despite being a multinational food joint. Identify and discuss the characteristic of management highlighted in the given case.

Q.5 Mukesh has limited authority and responsibility and interacts with the actual work force. At what level does he work in the organization?

Q.6 ABC Ltd. is able to achieve its target sales within the prescribed time as employees are happy and there is orderliness and coordination in the work environment. Discuss the characteristic of management depicted here?

OR

"Effect of management can always be noticed in every successful and unsuccessful organization." Identify and discuss the feature of management depicted in the given statement.

Q.7 In the first year of operation, the revenues generated by Max Industries from sale of its products are just sufficient to cover the cost of production.

Q.8 Through e-Chaupal, ITC aims to change the quality of life and the entire outlook of Indian farmers." Which objective is being highlighted by this initiative of ITC?

OR

XYZ Group of companies decided to donate 2% of its sales to 'Child Rights and You (CRY)' for improving the condition of children in India. This initiative by the company was highly appreciated by the public and their sales increased by 10%. Identify the objective depicted in the given case.

Q.8 'An organization consists of diverse individuals with different needs.' Discuss the management feature highlighted in the given statement.

Q.9 Ramprasad, the chairperson of Shah Foundation (Non-Profit Organisation), believes that the objectives of the foundation can be achieved without a proper management system. Which characteristic of management is overlooked in the given case?

OR

The five functions of management (planning, organizing, staffing, directing and controlling) are not needed in schools, hospitals, sports club, etc. as they are not run on commercial basis. Identify the feature of management ignored in the given case?

OR

Management is required in all kinds of organizations, whether economic, social or political. Which characteristic of management is highlighted in the statement?

Q.10 Suhasini, the General Manager of Fabmart, performs the managerial functions of planning, organizing, staffing, directing and controlling as an ongoing process. Which management feature is highlighted by this?

Q.11 'Management is the systematized body of knowledge that explains certain general truths.' Explain.

Q.12 Alpine Automobiles aims to produce and sell 2,00,000 cars in 2012. To achieve this objective, the production department strives for timely production and sales department takes all possible steps to sell them. Due to combined efforts of all the departments, the company is able to achieve its target.

Q.13 Mr. Nitin Singhania's father has a good business of Iron and Steel. He wants to go to USA for his M.B.A., but his father wants that he should join the business. On the basis of emerging trends, do you think that Mr. Singhania should send his son to USA? Give any three reasons in support of your answer.

Q.14 Ahlcon International (leading shoes manufactures) requires less labour hours and inputs to manufacture a pair of shoes as compared to its competitors. However, the company always fails to achieve its target production. Whether the Ahlcon International is effective and efficient in its working? Can the company be successful in the long run?

Q.15 'Success of a manager depends on the manner in which he practices the conceptual knowledge of management in combination with his own skills.' What nature of management is indicated in the statement?

Q.16 'Both Science and Art should exist together in every management function.' Explain this with the help of an example.

Q.17 “Management helps to implement new changes in the organization.” Which importance of management is referred in the statement?

Q.18 A company has achieved the target sales of 10,000 units but the advertisement expenditure has crossed the target limit. Is the performance of the company efficient and effective?

Q.19 Ram feels that management is not required in his school (non business activity), but Hari feels that management is required in all business and non business organization. Who is correct and why?

Q.20 List any 2 organisational objectives of management.

Q.21 Volvo Ltd’s target is to produce 10,000 shirts per month at a cost of ` 100/- per shirt. The production Manager achieved this target at a cost of ` 90/- per shirt. Do you think the ‘Production Manager’ is effective? Give one reason in support of your answer.

Q.22 ‘One of the objectives of management is to consistently create economic value for various constituents of the society.’ Give two examples of this objective.

Q.23 “One of the organizational objectives of management is ‘Growth’ of a business.” How can growth of a business be measured? Give any two examples.

Q.24 XYZ Power Ltd. set up a factory for manufacturing solar lanterns in a remote village as there was no reliable supply of electricity in rural areas. The revenue earned by the company was sufficient to cover the costs and the risks. The demand of lanterns was increasing day by day, so the company decided to increase production to generate higher sales. For this they decided to employ people from the nearby villages as very few job opportunities were available in that area. The company also decided to open schools and crèches for the children of its employees.

CHAPTER 2

Q.1 For the last two years, Tulip Industries is not functioning smoothly and systematically. The relations between management and employees are becoming bitter day-by-day. After a complete analysis, it was observed that employees are not working effectively and efficiently and management is not fulfilling its commitment of increments and promotions.

Q.2 Tarun is a salesman in M/s Star Industries. He did an aggressive research on a new cost saving advertisement technique and suggests the same to his sales manager. However, the sales manager did not pay any attention to his suggestion. Moreover, he also warned him not to come with any suggestions in future. Which principal of management is being violated by the manger? What should have been the appropriate way of response by the manager?

Q.3 "An employee working in a factory must not waste time in search of raw material or tools and he should know toe place where his superior will be available in case of any need." Which principal of Fayol is being highlighted in the given statement? State any two adverse consequences of not following the given principal.

Q.4 Raman, a purchase manager of a company, has to purchase 55 tonner of raw material. He purchased the raw material from a firm owned by his relative, at a rate more than the market price. Which management principal is being violated? What should have been the appropriate course of action by Raman?

Q.5 Mayank is a sales manager in a vacuum cleaner company. He is given the responsibility of meeting a sales target of 150 vacuum cleaners in a month. To achieve this target, Mayank needs 20 sales executives. However, he has just 11 executives under him and he is not given the authority to employ 9 more executives. Mayank is able to sell only 80 vacuum cleaners. The General Manager of the company blames Mayank for not achieving the target results. Do you think Mayank can be blamed for this?

Q.6 Mr. Shyamlal is the production foreman of Smart Kids Private Ltd. (kids wear manufacturing company). He gets instructions from Mr. Aditya (Production Manager) to increase the production due to over purchase of cloth. On the other hand, Mr. Kaantilal (Sales Manager) orders Shyamlal to slow down the production due to unpredictable trend of market demand.

Q.7 Fast Track Motors (automobile company) is producing 3 different types of vehicles: Cars, Two-wheelers and Three wheelers. All the activities of the company (Purchase, Production, Marketing, etc.) with respect to each type of vehicle are under one common department. Due to this, the company is unable to achieve its overall objectives.

Q.8 “Panchayats in our country have been given powers to decide and spend funds granted to them by the government for the welfare of villages.” Identify the management principle highlighted in the given statement.

Q.9 M/s Fast Cool Industries (AC manufacturing company) asked its employees to work overtime in order to meet growing demand of AC in the summer season. However, the employees were not paid overtime wages for extra time worked by them. As a result, the employees always felt dissatisfied and it led to unhealthy relationships between the employees and management.

Q.10 Mr. Prakash Chopra, General Manager of M/s Kwality Enterprises (Leather bags manufacturing company) retains complete authority over all the activities of the business. No decision-making power is given to the subordinates. As a result, Mr. Prakash is always engaged in day-to-day operational activities and is unable to concentrate on core issues of the company.

Q.11 “Now a days, people of various nationalities work together in a discrimination free environment, like India-born Indra Nooyi is the CEO of Pepsi.” Identify and mention any two positive effects of the management principal highlighted in the given statement?

Q.12 Ramesh is appointed as a mechanic in repair and maintenance department of Starlite Industries. However, he is not allotted a particular workshop and everyday he has to carry tools from one place to another. As a result, the workers have to search for Ramesh in case of any problem in the machine.

Q.13 Akhil and Shyam, having same educational qualifications, work as sales executives in a Water purifier company. Akhil gets a salary of ` 14,000 per month and Shyam gets ` 16,000 per month as he belongs to the home town of sales manager. Name and state the principal of management violated in the case?

Q.14 Craft Industries has adopted a new policy of cost cutting. Instead of appointing employees on permanent basis, it has started recruiting them as ‘trainees’ on temporary basis in order to avoid increment benefits. It immensely benefitted the company in financial terms. However, within one month, the trainees started leaving the company due to feeling of job insecurity. As a result, financial savings made by the company were spent in the process of new recruitment.

Q.15 The sales manager assigned a target of selling 40 RO Water Purifiers in a month to a group of 10 sales executives. They mutually decided to sell 4 purifiers each. However, after selling 1 purifier, Shitiz (one of the sales executive) met with an accident. The other sales executives did not pay any attention to the remaining target of Shitiz and concentrated on their individual sales target. At the end of the month, only 37 purifiers could be sold.

Q.16 In one of the techniques o scientific management, Taylor advocated separation of planning and execution functions. Identify and state the technique highlighted in the given statement.

Q.17 Gangadhar is a worker in Liberty Industries, a shoe making company. He is regularly provided instructions by one of his superior. Another superior lays down the sequence of operations. His speed, efficiency and quality of work are also supervised by different superiors, who specialize in their respective fields.

Q.18 Shersingh Work as a head machine in XYZ ltd (Machine assembling industry). He requires a number of tools while assembling the machine. For getting the Tools, Shersingh has to move frequently to the room, which is situated away from the work place. Such frequent movements leads to lot of time and no steps are taken by the factory manager to eliminate such unnecessary movements of Shersingh and his co-works.

Q.19 During the festival season of Diwali, Solar Industries (TV Manufacturing Company) planned to increase the production due to rising demand of TV in the market. To raise the production, the management asked the employees to work double shifts. In return, management also promised to pay Diwali bonus in addition to double remuneration. The employees happily completed the production target. However, after the festive season, the management denied to pay the Diwali bonus.

Q.20 In order to ensure unity of command, Mr. Rajkumar, the factory manager of M/s Play Kids Pvt. Ltd. (Toys Manufacturing Company), appointed just one foreman (Mr. Suryavanshi) for entire production, planning, implementation and control of a workman. However, Suryavanshi was not competent enough to effectively supervise both planning and executing functions. It reduced the quality of work and efficiency of workman.

Q.21 Sitaram, the production manager of X Ltd., wants to increase the speed of packaging. In order to identify and eliminate unnecessary and unproductive movements of workers in packaging, he installed a movie camera in the factory.

Q.22 Ria works as a secretary to the Managing Director of Knowledge Director of Knowledge Group Industries (Research and Development Company). Her boss has given the duty to acquire test reports from the laboratory. However, she was unable to fulfill the assigned task as only the technicians, researchers and top executives were allowed to enter and collect the test reports.

Q.23 Mastermind Industries developed a new product: 'Memory Sharpening Kit' for kids. Mr. Shankarprasad, the sales manager of the company, is asked to achieve target sales of 500 kits in one month. He designed a sales plan for the sale of kit without consulting his sales staff. He

even refused to hear their suggestions and asked them to just follow his instructions. It led to frustration among the sales staff and as a result, the sales target was not achieved on time.

Q.24 Sargam Enterprise import various computer parts from China and assembles them to make a complete computer. The total work involves three different tasks: assembling, labeling and packing of computer. Each employee of the company independently performs all the three tasks. As a result, no employee is able to gain specialization in a particular field and the company is unable to fulfill the orders on time.

Q.25 In the festive season, Shah Industries (leading manufacturers of gift items) decided to reduce the rest interval of workers from 30 minutes to just 7 minutes. However, due to heavy work load and reduction in time of rest interval, efficiency of workers went down and it led to fall in production level, instead of rising.

Q.26 In Sharp Industries, the employee's objectives were in direct contrast to organsational objectives. The employees ignored their own interest to give priority to organisations's objectives. Which management principal is highlighted in the given statement?

Q.27 D&D ltd Co. is large manufacturing unit. Recently the company had conducted the 'time' and 'motion' studies and concluded that on an average, a worker could produce 120 units per day. However, it has been noticed that average daily production of a worker is in the range of 80-90 units. What steps will you suggest to ensure that the actual performance is in accordance with the performance as per time and motion studies?

Q.28 A marketing manager was able to identify a bulk buyer and he was authorised to give discount of 10% for credit period upto 30days and discount of 5% if credit period extends beyond 30 days. However, the buyer was insisting for a discount of 10% for a credit period of 45 days. Due to lack of powers with the manager, the deal could not be finalised. Discount the principal, which is overlooked?

Q.29 A Company believes in natural growth of an enterprise as per needs and circumstances. It has no policies to regulate the working of its staff. Therefore, the staff has become unproductive and unpunctual. Advise.

Q.30 Mohan lal and his co-workers are employed by Crest Industry. All the workers keep on working from 8.00 am to 9.00 pm, without any break in between. Continuous work has reduced the production level. Management is very worried as the demand of the product is rising and production level is not satisfactory, inspite of having required workforce.

Q.31 Somesh started his business of processed food items. Being the sole proprietor of business, he used to take all the decisions. When the business of Somesh expanded, he

continued with the old practice of controlling all by himself. It led to delay in all important decisions. Explain the management principle violated by Somesh in the given case.

Q.32 Telco Ltd. is manufacturing files and folders from the old clothes to discourage use of plastic files and folders. For this they employ people from nearby villages where very less job opportunities are available. An employee, Harish, designed a plan for the cost reduction but it was not welcomed by the production manager. Another employee gave some suggestion for improvement in design, but it was also not appreciated by the production manager. State the principle of management described in the above para.

Q.33 "Interests of various stakeholders, like owners, shareholders, creditors, tax authorities, customers, society, etc. cannot be sacrificed for one individual or a small group of individuals, who want to exert pressure on the company." Discuss the management principle highlighted in the given statement.

Q.34 Pawan is working as a 'Production Manager' in CFL Ltd. engaged in manufacturing of CFL bulbs. There is no class-conflict between the management and workers. The working conditions are very good. The company is earning huge profits. As a policy matter, management is sharing the gains with the workers because they believe that prosperity of the company cannot exist for a long time without the prosperity of the employees. State the principle of management described in the above para.

Q.35 The production manager of a company wishes to enhance productivity level of workers. For this, he wishes to set up a standard task and also want to reward the efficient workers. Discuss Mention the three techniques of scientific management, which can be used by the production manager.

Q.36 What contradiction do you find in the principle of unity of command and the technique of functional foremanship and why?

Q.37 An organization follows the principles of management. What are the positive effects of each of the following principles of management on the organization? (i) Scalar Chain (ii) Equity, and (iii) Division of work.

Q.38 Which principle of management envisages that each group of activities having the same objectives must have on head and one plan? Explain the principle with a suitable example.

Q.39 Principles of Taylor and Fayol are mutually complementary. One believed that management should not close its ears to constructive suggestions made by the employees, while the other suggested that a good company should have an employee suggestion system,

whereby suggestions which result in substantial time or cost reduction should be rewarded. Identify and explain the principles of Taylor and Fayol referred in the above para.

Q.40 ABC Ltd. is engaged in producing electricity from domestic garbage. There is almost equal division of work and responsibility between workers and management. The management even takes workers into confidence before taking important decision. All the workers and satisfied as the behavior of the management is very good.

Q.41 Voltech India Ltd. is manufacturing LED bulbs to save electricity and is running under heavy losses. To revive from the losses, the management thought of shifting the unit to a backward area where labour is available at a low cost. The management also asked the workers to work overtime without any additional payment and promised to increase the wages of the workers after achieving its mission. Within a short period the company stated earning profits because both the management and the workers honoured their commitments.

Q.42 In your school, you observe that books are kept in office, chalks in the library and office records in the staffroom. How will that affect the achievement of school objectives? Which aspect of management is lacking here and why? As a manager, what steps will you take to rectify the shortcomings?

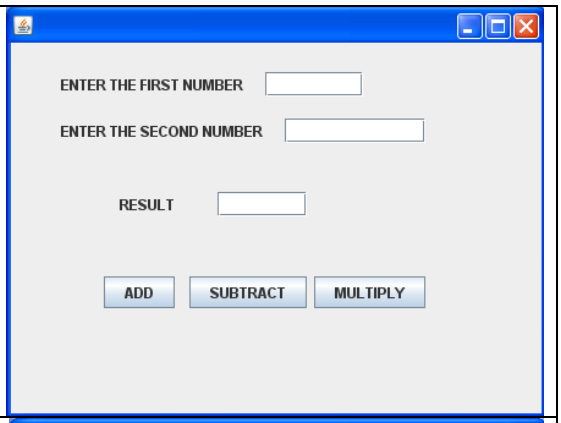
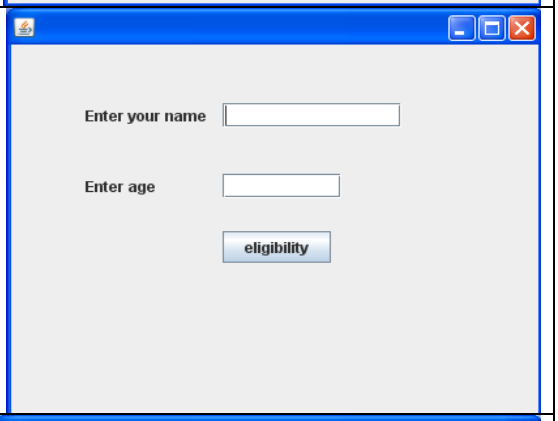
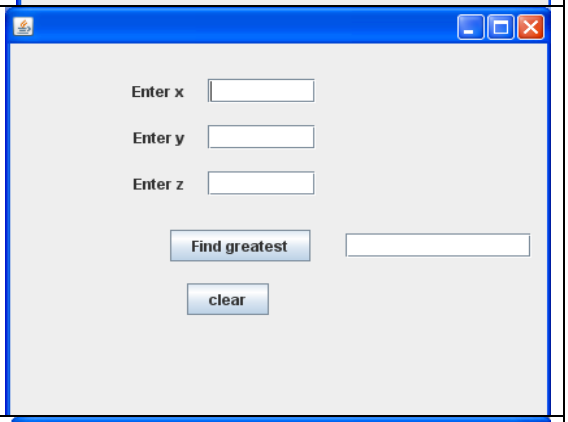
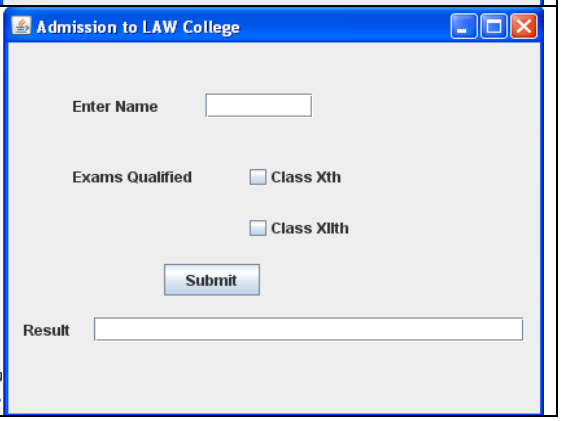
Q.43 Nikita and Salman completed their MBA and started working in a multinational company at the same level. Both are working hard and are happy with their employer Salman had the habit of backbiting and wrong reporting about his colleagues to impress his boss. All the employees in the organization knew about it. At the time of performance appraisal the performance of Nikita was judged better than Salman. Even then their boss, Mohammed Sharif decided to promote Salman stating that being a female Nikita will not be able to handle the complications of a higher post.

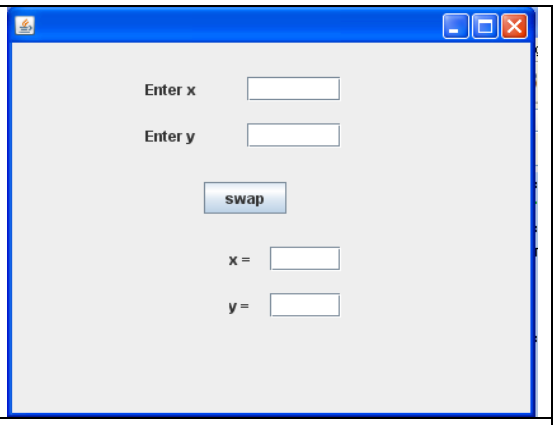
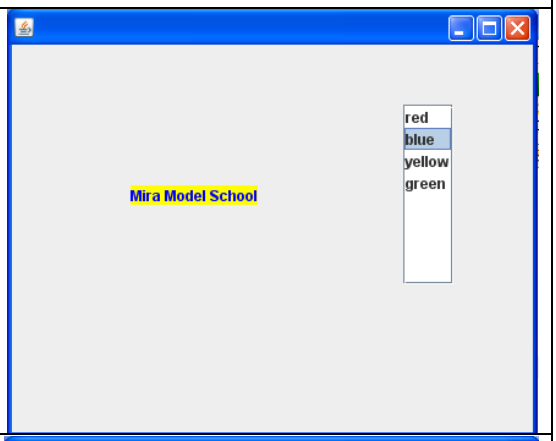
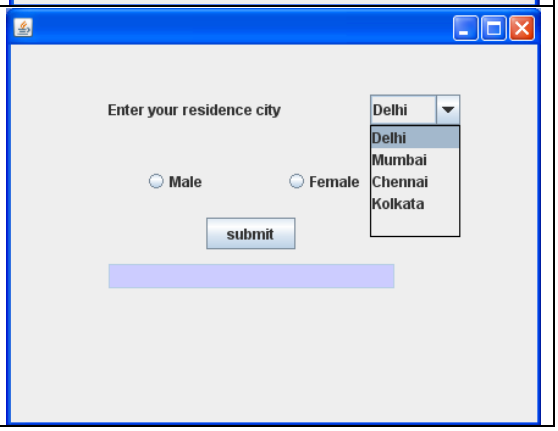
PROJECT WORK BASED ON C.B.S.E GUIDELINES FROM CHAPTER 1 AND 2

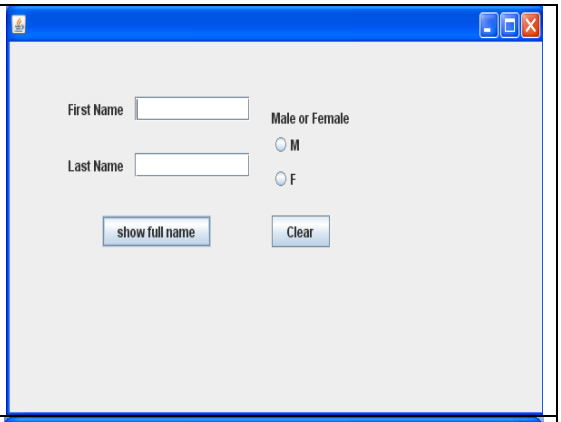
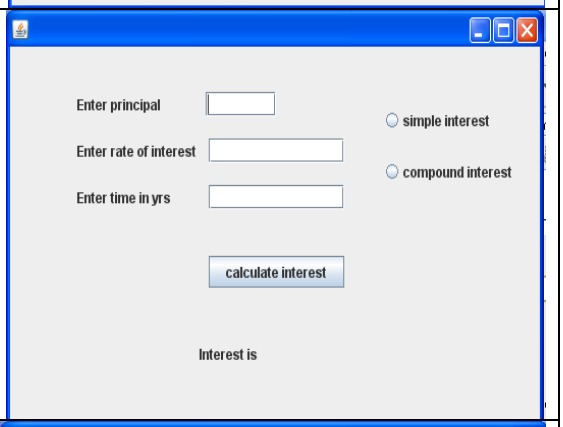
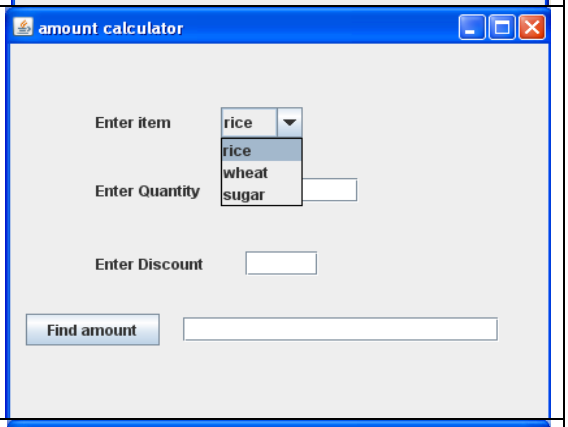
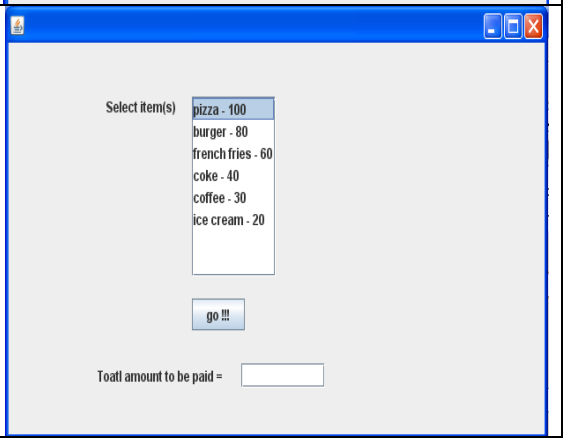
POL SCIENCE

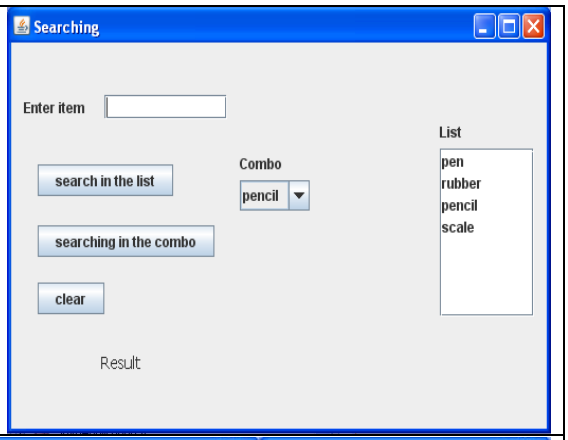
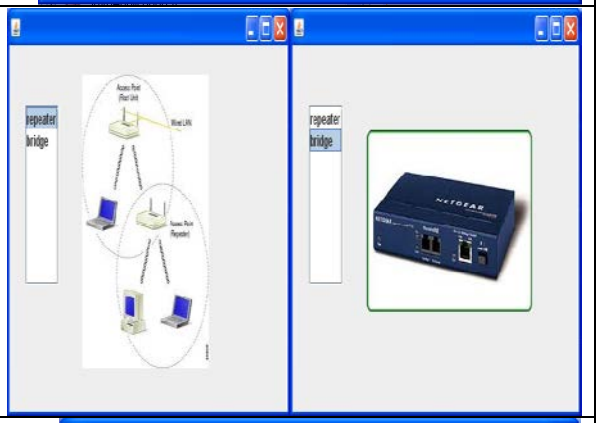
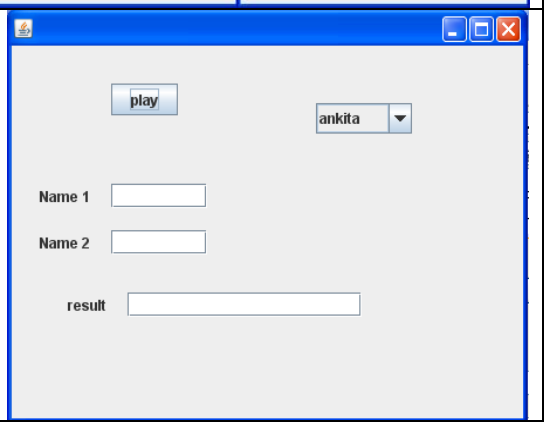
1) Answer the questions given in question bank on ruled file sheet (question bank given in class)
2) Prepare a map file which should cover all the maps given till chapter 4 from both the books.(international politics and politics in India since independence)
3) Study maps and cartoons mentioned in NCERT

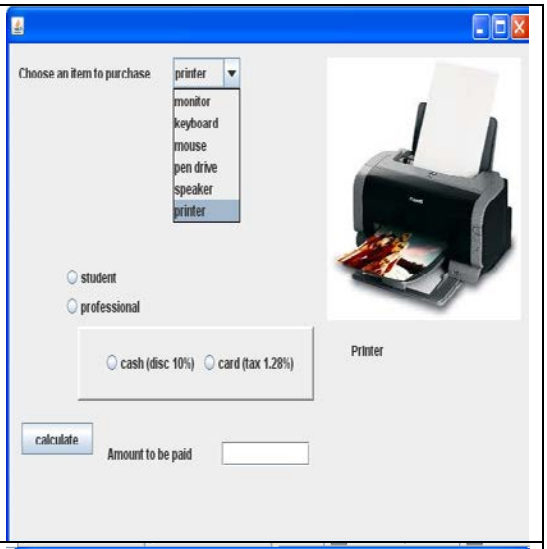
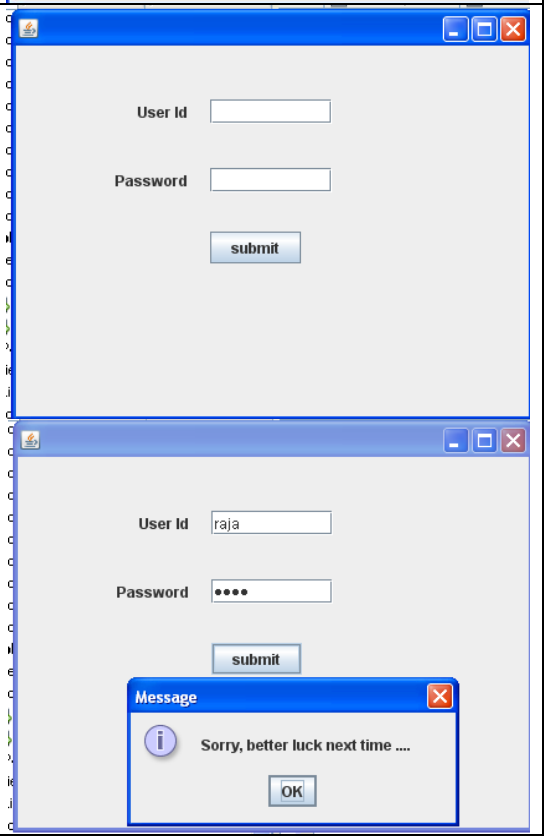
INFORMATICS PRACTICES

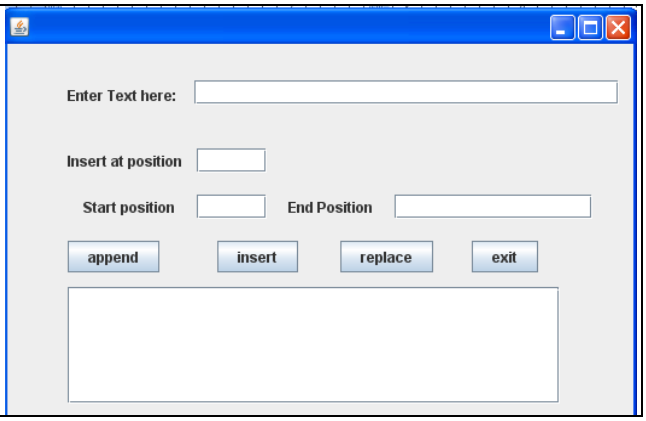
1	Write a java application to find the sum, difference and product of 2 integers.	
2	Write a java application to input name and age, if the age is less than 18 then display in a label “not elegible for voting” else display “eligible for voting”.	
3	Write a java application to find the maximum of three integers entered by the user.	
4	Write a java application to enter thname and the qualified exam(s), so that the display is as “You are eligible for a Graduate course and a diploma course/not eligible for a diploma course/only eligible for a diploma course.	

5	Write a java application to swap two integers x and y input by the user.	
6	Write a java program to find the sum of even and odd integers out of n integers input by the user.(use for loop)	
7	Write a java program to find the sum of the digits of a number.(use while loop)	
8	Write a java program to input a number and check whether it is prime or not	
9	Write a java program to generate a pattern when the number of lines is input by the user.(use nested loop) N=5 5 5 4 5 4 3 5 4 3 2 5 4 3 2 1	
10	Write a java application to display the text in the text box in the color selected from the list box (single entry allowed) with an appropriate background color.	
11	Write a java application to select a city from the combobox and the sex, so that the display is as “You are Male/Female residing in Delhi/Mumbai/Chennai/Kolkata”. The textfield for display should be uneditable.	

12	Write a java application to enter the first and last name in different textfields with an appropriate sex, so that the display is in a dialog box as “Your full name is Mr./Ms. R. Saxena”. The clear button should clear everything. (use substring(), concat() functions).		
13	Write a java application to calculate the simple interest/ Compound interest as selected where principal, rate and time should be entered by the user. Use round() to shorten the calculated interest to 2 significant digits after decimal point.		
14	Write a java application to calculate the Amount by the formula (price * quantity * 0.80) if discount is 20%. Price of the items will be fixed as rice – 80, wheat – 20, sugar – 32.5).		
15	Write a java application to calculate the total amount when item(s) are selected from the list box.		

16	Write a java application to search the item input by the user in a combo box/ list box depending on the button clicked.	
17	Write a java application to display the picture corresponding to the selection in the list box (only one selection is allowed).	
18	Write a java application to play a lotto where 2 number in the range 1 – (the number of items in the combobox) will be generated randomly and the item names with index equal to the these numbers will be displayed in the textboxes name1 and name2, if the names are equal then "you have won 1st prize", if the first letters of the names are equal then "you have won 2nd prize", if the no. of characters in both the names are equal the "you have won 3rd prize", otherwise "you loose" will be displayed.	

19	Write a java application to display the picture acoording to the choice and generate the bill amount where prices for all items in the combo box will be fixed the you in the code, then a 20% discount if you are a student, if paid bay cash an additional discount of 10% while an extra 1.28% if paid by credit card. The final amount is displayed as well as the item selected will also be displayed in the label just below the picture. Monitor – Rs 5500 Keyboard – Rs 250 Mouse – Rs 220 Pen drive – Rs 550 Speaker – Rs 1100 Printer – Rs 5400	
20	Write a java application to enter the user id and password, if the password matches then another window appears with options of insert, replace and append (the 3rd in the right hand side) and if the match fails then the 2nd window(a dialog box) in right hand side appears. • Append means to add line after line in the text area • Insert means the text to be inserted at the position specified. • Replace means the text to replace the text appearing between the start and end position in the text area.	

SQL

Consider the tables given below and answer the questions that follow:

Table: **Employee**

No	Name	Salary	Zone	Age	Grade	Dept
1	Mukul	30000	West	28	A	10
2	Kritika	35000	Centre	30	A	10
3	Naveen	32000	West	40		20
4	Uday	38000	North	38	C	30
5	Nupur	32000	East	26		20
6	Moksh	37000	South	28	B	10
7	Shelly	36000	North	26	A	30

Table: **Department**

Dept	DName	MinSal	MaxSal	HOD
10	Sales	25000	32000	1
20	Finance	30000	50000	5
30	Admin	25000	40000	7

Write SQL commands to:

CREATE DATABASE, USE, DROP DATABASE, DESC, SHOW TABLES, SHOW DATABASES, CREATE TABLE, INSERT INTO

1. Create a database mira
2. Get inside the database mira
3. Create tables Employee and Department
4. Insert tuples as shown above
5. Display the databases that are already created.
6. Display the database mira.
7. Display the tables that exists in the current database.
8. Display the structure of the table Employee
9. Display the structure of the table Department

Simple Select

10. Display the details of all the employees.
11. Display the Salary, Zone, and Grade of all the employees.

12. Display the records of all the employees along with their annual salaries. The Salary column of the table contains monthly salaries of the employees.
13. Display the records of all the employees along with their annual salaries. The Salary column of the table contains monthly salaries of the employees. The new column should be given the name "Annual Salary".

Conditional Select using Where Clause

14. Display the details of all the employees who are below 30 years of age.
15. Display the names of all the employees working in North zone.
16. Display the salaries of all the employees of department 10.

Using NULL

17. Display the details of all the employees whose Grade is NULL.
18. Display the details of all the employees whose Grade is not NULL.

Using DISTINCT Clause

19. Display the names of various zones from the table Employee. A zone name should appear only once.
20. Display the various department numbers from the table Employee. A department number should be displayed only once.

Using Logical Operators (NOT, AND, OR)

21. Display the details of all the employees of department 10 who are above 30 years of age.
22. Display the details of all the employees who are getting a salary of more than 35000 in the department 30.
23. Display the names and salaries of all the employees who are working neither in West zone nor in Centre zone.
24. Display the names of all the employees who are working in department 20 or 30.
25. Display the details of all the employees whose salary is between 32000 and 38000.
26. Display the details of all the employees whose grade is between 'A' and 'C'.

Using IN Operator

27. Display the names of all the employees who are working in department 20 or 30. (Using IN operator)
28. Display the names and salaries of all the employees who are working neither in West zone nor in Centre zone. (Using IN operator)

Using BETWEEN Operator

29. Display the details of all the employees whose salary is between 32000 and 38000. (Using BETWEEN operator)
30. Display the details of all the employees whose grade is between 'A' and 'C'. (Using BETWEEN operator)

Using LIKE Operator

31. Display the name, salary, and age of all the employees whose names start with 'M'.
32. Display the name, salary, and age of all the employees whose names end with 'a'.
33. Display the name, salary, and age of all the employees whose names contain 'a'
34. Display the name, salary, and age of all the employees whose names do not contain 'a'
35. Display the details of all the employees whose names contain 'a' as the second character.

Using ORDER BY clause

36. Display the details of all the employees in the ascending order of their salaries.
37. Display the details of all the employees in the descending order of their names.
38. Display the details of all the employees in the ascending order of their grades and within grades in the descending order of their salaries.

Using GROUP BY clause

39. Display the total number of employees in each department.
40. Display the highest salary, lowest salary, and average salary of each zone.
41. Display the average age of employees in each department only for those departments in which average age is more than 30.

Using UPDATE, DELETE, ALTER TABLE

42. Put the grade B for all those whose grade is NULL.
43. Increase the salary of all the employees above 30 years of age by 10%.
44. Delete the records of all the employees whose grade is C and salary is below 30000.

45. Delete the records of all the employees of department 10 who are above 40 years of age.

DROP TABLE, ALTER TABLE

46. Drop the tables Employee and Department.
47. Add another column HireDate of type Date in the Employee table.
48. Modify the column age to favsub with char(15)
49. Remove the column HireDate

ECONOMICS

UNIT- 1

Unit 1: Introduction

Q1 Why the problem of choice arises in an economy?

Q2 What are the two factors which define scarcity?

Q3 Why there is a need for economising of resources?

Q4 What do you mean by a production possibility curve?

Q5 What role PPC has in solving central problems of an economy?

Q6 Give a table showing the production of two commodities with the help of given resources?

Q7 Why MOC must rise as resources are shifted from use 1 to use 2, even when given resources are fully & efficiently utilized?.

Q8 What does a PPC show?

Q9 If we move from one point to another on PPC, what does it mean?

Q10 Why the production at a point towards left hand side from PPC is not desirable?

Q11 What do you mean by a point below PPC?

Q12 How is it possible to increase the production of one commodity without sacrificing the production of other commodity when all the resources are utilised fully?

Q13 Why do growth of resources and technological advances shift PPC to the right?

Q14 PPC shows the fuller utilisation of resources, then how is it possible to produce more with the help of same resources?

Q15 What is the meaning of growth of resources?

Q16 What is the role of improved technology on a production possibility curve?

Q17 What do you mean by under utilisation of resources?

Q18 If all the resources are not used fully to produce commodities , what is it called?

Q19 Explain the meaning of shift of PPC towards right hand side.

Q20 On which side PPC will shift due to growth of resources?

Q21 How an economy decides that what all should be produced with the help of given resources ?

Q22 In which direction PPC will shift due to a massive unemployment in the country ?

Q23 If some producing units are destroyed because of earthquake in the country, how will it affect the PPC ?

Q24 If number of skilled labour increases in the country, how will it affect PPC ?

Q25 Draw a PPC & indicate the following situations on the diagram:

i) Fuller & Efficient utilization of resources

ii) Under utilization of resources

iii) Growth of utilization of resources

UNIT II

CONSUMER'S EQUILIBRIUM WITH UTILITY APPROACH

1. Differentiate between "desire" and "demand" for a commodity.
2. Why does an individual demand?
3. Define utility
4. What is meant by total utility?
5. What is meant by marginal utility?
6. State the law of Diminishing marginal utility?
7. a) How is total utility derived from marginal utilities?
    a. b) Who has introduced the concept of "utility"?
8. What does the word equilibrium mean?
9. State the condition of consumer's equilibrium?
10. What do you understand by "rational consumer"?
11. When does consumer buy more of commodity?
12. State the relationship between demand for a commodity and its price?
13. Why "other things being same" phrase is associated to law of demand.
14. How does individual demand related to market demand.
15. What are the factors that affect only market demand for the goods?
16. What is meant by one good being substitute of another?
17. What is meant by one good being complement of another?
18. If the demand for good Y increases as the price of another good X rises, how are the two goods related?
19. How will an increase in the price of coffee affect the demand for the tea?
20. How will an increase in the price of petrol affect the demand for the car?
21. Give two examples of normal goods

22. Once the consumer reaches the point of equation (which is the point of maximum satisfaction) he would not like to Δ his allocation of $expd^e$ (to goods x & y) even if price of one commodity changes ? Do you agree?
23. What are inferior goods?
24. How does an increase in income affect the demand curve for a normal good?
25. State the factors that can cause a rightward shift of demand curve of a commodity?
26. State the difference between changes in quality demanded and change in demand.
27. What is the basic difference between shift of demand curve and movement along the curve?
28. State the difference between decrease in demand and contraction of demand?
29. What does "Elasticity of Demand" show?
30. What will be the value of elasticity of demand If the demand is a horizontal line, parallel to x-axis?
31. What is price elasticity of demand for life saving drugs?
32. What is the relationship between slope and elasticity of a demand?
33. Which of the following commodities have inelastic demand?
    i. Salt, medicine, mobile phone, School uniform, cold drink.
34. The Demand curve has the slope of rectangular hyperbola. What is the elasticity of demand of that commodity?
35. How will you measure price elasticity of demand at a point on the demand curve? Give formula.
36. State the relationship between price of its substitute and demand for a commodity?
37. Explain the total expenditure method of finding the elasticity of demand.

NUMERICALS: PRACTICE FROM C. B. SACHDEVA & NCERT

FOOD PRODUCTION

1. Visit some restaurants of your locality and collect different types of menucards (A La'Carte/ Table d'Hote) . Prepare your own menucard.
2. Complete the filework as discussed in the class.
3. Find about any one renowned chef and describe in detail his profession achievements.

HOME SCIENCE

1. Prepare the nutritional requirement chart and plan a diet for the following:
   1. Adolescence
   2. Lactating mother
   3. Pregnant lady
2. Complete the filework as discussed in the class.
3. Complete the assignments given in the class for the concerned chapters.

PHYSICAL EDUCATION

- Prepare a record File
- Draw a neat diagram of the Field / Court of any one Game of choice. Write its history, Rules & Regulations, Skills, Terminologies and important Tournaments. Choose one out of the following: Atheletics, Basketball, Football, Handball, Hockey, Kho-Kho, Volleyball
- Write benefits of Asanas, Swiss Ball and Plyometric.
- Measure Resting Heart Rate and Respiratory Rate of ten members from family, neighbourhood for three weeks and show graphical representation of the data.

Music Instrumental

- Contribution of musicians:

a) Ustad Inayat Khan

b) Ustad Mushtaq Ali Khan

- Practice: Raga Bhairav, Raga Malkauns

Engineering Drawing

Prescribed Book : Modern Engg. Graphics

From Question Bank:

- Q. No. 10, 14, 15, 17 & 24 (Isometric Projections)
- Q. No. 30, 32, 34, 37 & 39 (Machine Parts)
- Q. No. 54, 55, 68, 60 & 61 (Assemblies)