



Little Flowers Public Sr. Sec. School

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DATED : 22.05.2024

**SUMMER VACATION OF CLASS XII COMMENCES FROM 21.05.2024 TO 21.06.2024.
THE SCHOOL WILL REOPEN ON 22.06.2024.**

CLASS XII- HOLIDAYS HOMEWORK (2024-25)

SCIENCE STREAM

ENGLISH

Prepare a Project File on the assigned topic and guidelines by your respective English teacher properly in 17 to 20 pages for Board Exam 2025.

PHYSICS

1. Solve ncert exercises of ch1, 2 and 3
2. Define electric potential at a point and write its SI units.
3. Two points charges are kept '10' CM distance apart in vacuum. How should the distance between them be changed so that the coulomb's force between them doubled when they are kept in a medium of dielectric constant 82
4. Plot (E v/s r) graph, where E is the electric field of chargepoint charges kept 'r' distance apart
5. Using Gauss's law, deduce an expression for the electric field due to an infinitely charged plane thin sheet
6. What is meant by conservation of force ? A sphere A having 2 uc charge is brought in contact with another identical sphere B. If the charges on them after separation be + 1 uc each, what was the initial charge on B?
7. Can a charged body repelled a neutral body? You are given four charged balls A, B, C and D. If A attracts B, B repels C and C attracts D, what can you say about the interaction between A and D? Justify
7. Sketch the equipotential surfaces due to two identical balls having equal positive charges. fi two identical balls having equal but opposite charges
8. What do you understand by Induction of charge ? A glass rod is rubbed with silk and acquires a charge of 3000 C How many electron has it gained or lost?
- 9.(a) The electric field in a region of space is zero what conclusion can one draw about the electric field linesl in that region?
(b) Two point charges +4e and +e are kept x distance apart. What should be the sign and magnitude of a third charge kept mid-way between them so that the system remains in equilibrium?
10. Derive an expression for the electric field intensity due to an electric dipole at a point lying its axial line. Hence write the magnitude and direction of the field at the centre of dipole
11. What is meant by a uniform electric field. a dutron particle starts from rest in a uniform electric field of 300 NC How lang would it take to cover 100 cm
12. Make an activity file for board examination.

CHEMISTRY

- Q.1 Write Construction and working of Electrochemical cell.
- Q.2 Write short note on SHE.
- Q.3 Write Nernst equation for single electrode and cell.
- Q.4 (i) Write relation between E^0 cell and K_c .
(ii) Write relation between E^0 cell and $\Delta\Delta G^0$
- Q.5 Write function of Electrochemical cells.

- Q.6 Define conductance and conductivity.
- Q.7 How will you find conductivity of solution explain.
- Q.8 When you measure conductivity of solution, you face some problems what are these and how these problems can be solved.
- Q.9 Explain effect of conc on conductance, conductivity and Λ_m conductivity.
- Q.10 How does Λ_m vary for weak and strong electrolyte with Concentration. Explain with graph.
- Q.11 State Kohlrausch law and write its application.
- Q.12 State Faraday's I law and II law
- Q.13 Write anode and cathode reaction takes place in 1. Dry cell 2. Mercury Cell 3. Lead storage battery 4.

NICAD

- Q.14 Explain construction and working of fuel cell and define fuel cell.
- Q.15 Rusting is an electrochemical phenomenon. Explain with reactions.
- Q.16 Rusting of iron is inhibited in alkaline medium.
- Q.17 Write name of chemical used to prevent rusting.
- Q.18 What is meant by cathodic protection of iron.
- Q.19 Define molar conductivity and write relation between Λ_m and k (Conductivity).
- Q.20 Write factors affecting electrolytic conductance.
- Q.21 Write product of electrolysis of following: -
- dil H_2SO_4 using Pt electrodes
 - Conc H_2SO_4 using Pt electrodes
 - aq $CuSO_4$ using Pt electrodes
 - aq $CuBr_2$ using Cu electrodes
 - aq $CuBr_2$ using Pt electrodes
- Q.22 Zn electrode is dip in 0.1 M solution of $ZnSO_4$. find electrode potential. Given $[E^0_{Zn^{2+}/Zn} = -0.76V]$
- $Mg(s) | Mg^{2+}(0.2M) || Ag^+(1 \times 10^{-3}M) | Ag(s)$
 $E^0_{Ag} | Ag^+ = -0.80 V, E^0_{Mg/Mg^{2+}} = 2.37 V$
- Q.24 Electrolytic conductivity of 0.30 M Solution of KCl at 298 K is $3.72 \times 10^{-2} S cm^{-1}$. Calculate its molar conductivity.
- Q.25 The E^0_{cell} of cell reaction
 $3Sn^{4+} + 2Cr \rightleftharpoons 3Sn^{2+} + 2Cr^{3+}$
 is 0.89V. Calculate G^0 For the reaction.
- Q.26 How many hours does it take to reduce 3 mol of Fe^{3+} to Fe^{2+} with 2 A current?
- Q.27 Write Nernst equation and calculate E.M.F of the following cell at 298K.
 $Sn | Sn^{2+}(0.050 M) || H^+(0.020M) | H_2(g) | Pt$
- Q.28 Calculate Λ^0_m for $CaCl_2$ ($\Lambda^0_{Ca^{2+}} = 119 Scm^2 mol^{-1}$)
 $(\Lambda^0_{Cl^-} = 76.3 Scm^2 mol^{-1})$
- Q.29 The Conductivity of $0.001028 mol L^{-1}$ acetic acid is $4.95 \times 10^{-5} Scm^{-1}$. Calculate its dissociation const. If Λ^0_m for acetic acid is $390.5 scm^2 mol^{-1}$.
- Q.30 Rusting of iron is quicker in saline water than in ordinary water.
- Q.31 Write difference between Electrochemical and electrolytic cell.
- Q.32 Write Debye Huckel Onsager's equation.

MATHS

1. What is the principal value of $\cos^{-1}(\cos \frac{2\pi}{3}) + \sin^{-1}(\sin \frac{2\pi}{3})$
2. Find the principal value of: $\tan^{-1}(\sqrt{3}) - \sec^{-1}(-2)$.
3. Evaluate: $\tan^{-1}(2\cos(2\sin^{-1}(\frac{1}{2})))$
4. Prove the following: $\cos(\sin^{-1} \frac{3}{5} + \cot^{-1} \frac{3}{2}) = \frac{6}{5\sqrt{13}}$
5. Find the value of $\cot \frac{1}{2} [\cos^{-1}(\frac{2x}{1+x^2}) + \sin^{-1}(\frac{1-y^2}{1+y^2})]$, $|x| < 1$, $y > 0$ and $xy < 1$
6. Simplify: $\cos^{-1}(\frac{3}{5}\cos x + \frac{4}{5}\sin x)$
7. Prove that: $\tan(\frac{\pi}{4} + \frac{1}{2}\cos^{-1}\frac{a}{b}) + \tan(\frac{\pi}{4} - \frac{1}{2}\cos^{-1}\frac{a}{b}) = \frac{2b}{a}$
8. Prove the following: $\cot^{-1}[\frac{\sqrt{1+\sin x} + \sqrt{1-\sin x}}{\sqrt{1+\sin x} - \sqrt{1-\sin x}}] = \frac{x}{2}$
9. Prove that: $\tan^{-1}[\frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}] = \frac{\pi}{4} - \frac{1}{2}\cos^{-1}x$
10. Write the principal value of $\cos^{-1}(\cos(\frac{7\pi}{6}))$
11. For what value of k , the matrix $\begin{bmatrix} k & 2 \\ 3 & 4 \end{bmatrix}$ is invertible
12. Given $A = \begin{bmatrix} 2 & -3 \\ -4 & 7 \end{bmatrix}$ Compute A^{-1} and show that $2A^{-1} = 9I - A$
13. Find the value of x such that the points $(0,2)$, $(1,x)$, $(3,2)$ are collinear.
14. Given $A = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$ verify that $BA=6I$, use the result to solve the system of linear equations $x-y=3$, $2x+3y+4z=17$, $y+2z=7$
15. Using matrices, solve the following system of linear equations:
 $x + 2y - 3z = -4$
 $2x + 3y + 2z = 2$
 $3x - 3y - 4z = 11$

16. If $A = \text{Find } A^{-1}$. Hence solve the system of equations.
 $x - y = 3$
 $2x + 3y + 4z = 17$
 $y + 2z = 7$
17. Find $|A^{-1}|$ for the matrix $A = \begin{bmatrix} 2 & 5 \\ 1 & 3 \end{bmatrix}$
18. If $F(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$ prove that $[F(x)]^{-1} = F(-x)$
19. The monthly incomes of Aryan and Babbar are in the ratio 3: 4 and their monthly expenditures are in the ratio 5: 7. If each save ₹ 15,000 per month, find their monthly incomes, using matrix method.
20. The management committee of a residential colony decided to award some of its members (say x) for honesty, some (say y) for helping others and some others (say z) for supervising the workers to keep the colony neat and clean. The sum of all the awardees is 12. Three times the sum of the awardees for cooperation and supervision added to two times the number of awardees for honesty is 33. If the sum of the number of awardees for honesty and supervision is twice the number of awardees for helping others. Using matrix method, find the number of awardees of each category.

Find $\frac{dy}{dx}$ for the following questions:

21. $(x^2 - y^2)^2 = 4xy$.
22. $\sin xy + \frac{x}{y} = x^2 - y^2$.
23. $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$.
24. $\log \log (x^2 + y^2) = 2 \tan^{-1} \frac{y}{x}$.
25. $x\sqrt{1+y} + y\sqrt{1+x^2} = 0$. Show $\frac{dy}{dx} = \frac{-1}{(x+1)^2}$.
26. $y = \sin^{-1} \left(\frac{2^{x+1} 3^x}{1 + (36)^x} \right)$.
27. $x = a \cos \theta + b \sin \theta, y = a \sin \theta - b \cos \theta$. Prove $y^2 \frac{d^2 y}{dx^2} - x \frac{dy}{dx} + y = 0$
28. $x = \sin t, y = \sin pt$, Prove $(1 - x^2) \frac{d^2 y}{dx^2} - x \frac{dy}{dx} + p^2 y = 0$

PHYSICAL EDUCATION:

Choose a specific games or sports from the following -

Basketball, Handball, kho-kho, Football, hockey, volleyball, kabaddi and cricket

(Choose any one Sport/Game)

Write about the following information which is given below of the sports you have selected.

- History of sports/games
- Rules and regulation
- Measurement
- Specification
- Fundamental skill
- Terminology
- Sports Gear
- Sports Personalities
- Sports injury
- Important Tournament
- Warming up and Cool Down Exercise

Practical No-1: Fitness Test administration for all items.

Practical No-2: Procedure for Asanas, Benefits and contradictions for any one Asanas for each life-style disease.
(Take your Pictures and Paste in Project File)

Practical No-3: Procedure for administrating Senior Citizen Fitness Test for 5 elderly family members /neighbours.

Practical No-4: Draw a 400m Athletic Track with their specifications & measurements.

BIOLOGY

CH-5/PRINCIPLES OF INHERITANCE AND VARIATION

Instructions – all are board questions first take out print of HHW do one mark questions on same sheet .
Read assignment carefully if questions are repeated kindly write question numbers first and than write answer.

1 mark:

- Q1. Name one autosomal dominant & one autosomal recessive Mendelian disorder in humans. (CBSE-2010)
- Q2. Name the event during cell division cycle that results in the gain or loss of chromosome. (CBSE-2011)
- Q3. A garden pea plant (A) produced inflated yellow pod, and another plant (B) of the same species produced constricted green pods. Identify the dominant traits. (CBSE-2012)
- Q4. What are 'true breeding lines' that are used to study inheritance pattern of traits in plants?(CBSE-2014)
- Q5. A geneticist interested in studying variations and patterns of inheritance in living beings prefers to choose organisms for experiments with shorter life cycle. Provide a reason. (CBSE-2015)
- Q6. State a difference between a gene and an allele. (CBSE-2016)
- Q7. Give an example of a human disorder that is caused due to a single gene mutation. (CBSE-2016)
- Q8. State the fate of a pair of autosomes during gamete formation. (CBSE-2017)
- Q9. Write the number of chromosomes body cells of honey bee workers and drone have. (CBSE-2019)
- Q10. British geneticist R.C. Punnett developed a graphical representation of a genetic cross called “Punnett Square”. Mention the possible result this representation predicts of the genetic cross carried. (CBSE-2019)

2 marks:

- Q1. A man with blood group A married a woman with B group. They have a son with AB blood group and a daughter with blood group O. Work out the cross and show the possibility of such inheritance. (CBSE-2008)
- Q2. The male fruit fly & female fowl are heterogametic while the female fruit fly & the male fowl are homogametic. Why are they called so? (CBSE-2008)
- Q3. A plant of *Antirrhinum majus* with red flowers was crossed with another plant of the same species with white flowers. The plants of the F₁ generation bore pink flowers. Explain the pattern of inheritance with the help of a cross. (CBSE-2008)
- Q4. A woman with blood group O married a man with AB group. Show the possible blood groups of the progeny. List the alleles involved in this inheritance. (CBSE-2008)
- Q5. Why are F₂ phenotypic and genotypic ratios same in a cross between red-flowered snapdragon and white-flowered snapdragon plants. Explain with the help of a cross. (CBSE-2010)
- Q6. During his studies on genes in *Drosophila* that were sex-linked T.H. Morgan found F₂ – population phenotypic ratios deviated from expected 9:3:3:1. Explain the conclusion he arrived at. (CBSE-2010)
- Q7. In a cross b/w two tall pea plants some of the offspring produced were dwarf. Show with the help of Punnett square how this possible. (CBSE-2013)
- Q8. A cross was carried out between two pea plants showing the contrasting traits of height of the plants. The result of the cross showed 50% parental characters. (CBSE-2014)
- (i) Work out the cross with the help of a Punnett square. (ii) Name the type of the cross carried out.

Q9. How does the gene 'I' control ABO blood groups in humans? Write the effect the gene has on the structure of red blood cells. (CBSE-2014)

Q10. Write the types of sex-determination mechanisms the following crosses show. Give an example of each type (i) Female XX with Male XO (ii) Female ZW with Male ZZ (CBSE-2014)

Q11. Differentiate between male and female heterogamety. (CBSE-2015)

Q12. Explain mechanism of sex determination in birds. (CBSE-2015)

Q13. Differentiate between 'ZZ' and 'XY' type of sex determination mechanism. (CBSE-2015)

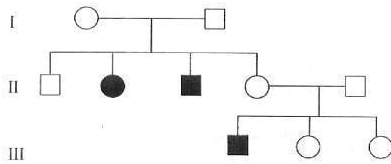
Q14. Give an example of an autosomal recessive trait in humans. Explain its pattern of inheritance with the help of a cross. (CBSE-2016)

3 marks

Q1. Explain the pattern of inheritance of haemophilia in humans. Why is the possibility of a human female becoming haemophilic extremely rare? Explain. (CBSE-2008)

Q2. A non-haemophilic couple was informed by their doctor that there is possibility of a haemophilic child be born to them. explain the basis on which the doctor conveyed this information . give the genotype and phenotype of all the possibilities born to them.

Q3. Study the given pedigree chart and answer the question that follow –



a. Is the trait recessive or dominant?

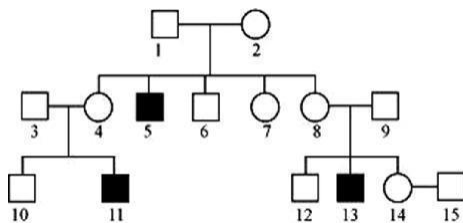
b. Is the trait sex-linked or autosomal?

c. Give the genotype of the parents of the parents in generation I and of their and fourth child in generation II. (CBSE-2008)

Q4. Haemophilia is a sex-linked recessive disorder of humans. The pedigree chart given below shows the inheritance of haemophilia in one's family. Study the pattern of inheritance and answer the question given.

.Give all the possible genotypes of the members 4, 5 and 6 in the pedigree chart.

A blood test shows that the individual 14 is a carrier of haemophilia. The member



Q5. Inheritance pattern of ABO blood groups in humans shows dominance, codominance and multiple allelism. Explain each concept with the help of blood group genotypes. (CBSE-2009)

Q6. (i) Why are grasshopper and Drosophila said to show male heterogamity ? Explain.

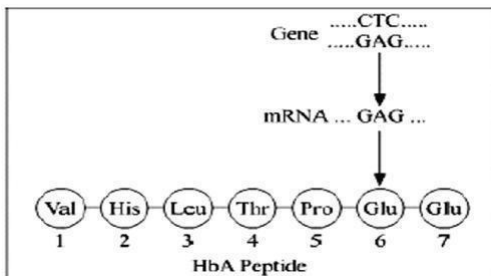
(ii) Explain female heterogamity with the help of an example. (CBSE-2010)

Q7. How are dominance, co-dominance and incomplete dominance patterns of inheritance different from each other? (CBSE-2011)

Q8. (a) Sickle celled anaemia in humans is a result of point mutation. Explain.

(b) Write the genotypes of both the parents who have produced a sickle celled anaemic offspring. (CBSE-2011)

Q9. Given below is the representation of amino acid composition not the relevant translated portion of β -chain of haemoglobin, related to the shape of human red blood cells. - (a) Is this representation indicating a normal human or a sufferer from certain related genetic disease? Give reason in support of your answer.



a. What difference would be noticed in the phenotype of the normal and the sufferer related to this gene?
b. Who are likely to suffer more from the defect related to the gene represented the males, the females or both males and females equally? And why? (CBSE-2012)

Q10. (a) Why is human ABO blood group gene considered a good example of multiple alleles?

Work out a cross up to F_1 generation only, between a mother with blood group A (Homozygous) and the father with blood group B (Homozygous). Explain the pattern of inheritance exhibited. (CBSE-2013)

Q11. A colour-blind child is born to a normal couple. Work out a cross to show how it is possible. Mention the sex of this child. (CBSE-2014)

Q12. Mendel published his work on inheritance of characters in 1865, but it remained unrecognised till 1900. Give 3 reasons for the delay in accepting his work. (CBSE-2014)

Q13. A cross between a normal couple resulted in a son who was haemophilic & a normal daughter. In course of time, when the daughter was married to a normal man, to their surprise, the grandson was also haemophilic.

a. Represent this cross in the form of a pedigree chart. Give the genotypes of the daughter & her husband.

b. Write the conclusion you draw of the inheritance pattern of this disease. (CBSE-2014)

Q14. A teacher wants his /her students to find the genotype of pea plants bearing purple coloured flowers in their school garden. Name and explain the cross that will make it possible. (CBSE-2015)

Q15. A couple with normal vision bears a colour blind child. Work out a cross to show how it is possible and mention the sex of the affected child. (CBSE-2016)

Q16. How would you find genotype of a tall pea plant bearing white flowers? Explain with the help of a cross. Name the type of cross you would use. (CBSE-2016)

Q17. During a medical investigation, an infant was found to possess an extra chromosome 21. Describe the symptoms the child is likely to develop later in the life. (CBSE-2017)

Q18. Compare in any three ways the chromosomal theory of inheritance as proposed by Sutton and Boveri with that of experimental results on pea plant presented by Mendel. (CBSE-2019)

Q19. (a) Explain linkage and recombination as put forth by T.H. Morgan based on his observations with *Drosophila melanogaster* crossing experiment.

b. Write the basis on which Alfred Sturtevant explained gene mapping. (CBSE-2019)

5 marks

Q1. (a) A true breeding pea plant, homozygous for inflated green pods, is crossed with another pea plant with constricted yellow pods (iigg). What would be the phenotype and genotype of F_1 and F_2 generations? Give the phenotype ratio of F_2 generation.

(b) State the generalisation proposed by Mendel on the basis of the above mentioned cross. (CBSE-2008)

Q2. A true breeding pea plant homozygous for axial violet flowers (AAVV) is crossed with another pea plant with terminal white flowers (aavv).

a. What would be the phenotype and genotype of F₁ and F₂ generations?

b. Give the phenotypic ratio of F₂ generations.

c. List the Mendel's generalisations that can be derived from the above cross. (CBSE-2008)

Q3. A homozygous tall pea plant with green seeds is crossed with a dwarf pea plant with yellow seeds. What would be the phenotype and genotype of F₁?

Work out the phenotypic ratio of F₂ generation with the help of a Punnett square. (CBSE-2008)

Q4. A snapdragon plant homozygous for red flower when with a white flowered plant of the same species produced pink flower in F₁ generation –

a. What is this phenotypic expression called?

b. Work out the cross to show the F₂ generation when F₁ was self pollinated. Give the phenotypic and genotypic ratios of F₂ generation.

c. How do you compare the F₂ phenotypic and genotypic ratios with those of Mendelian monohybrid F₂ ratios? (CBSE-2008)

Q5. You are given a red flower-bearing pea plant and a red flower-bearing snapdragon plant. How would you find the genotypes of these two plants with respect to the colour of the flower? Explain with the help of crosses. Comment upon the pattern of inheritance seen in these two plants. (CBSE-2009)

Q6. (a) How does a chromosomal disorder differ from a Mendelian disorder?

b. Name any two chromosomal aberration associated disorders.

c. List the characteristics of the disorders mentioned above that help in their diagnosis. (CBSE-2010)

Q7. (a) State the law of independent assortment.

(b) Using Punnett Square demonstrate the law of independent assortment in a dihybrid cross involving two heterozygous parents. (CBSE-2010)

Q8. Describe the mechanism of pattern of inheritance of ABO blood groups in humans. (CBSE-2011)

Q9. (a) Why is haemophilia generally observed in human males? Explain the conditions under which a human female can be haemophilic.

(b) A pregnant human female was advised to undergo M.T.P. It was diagnosed by her doctor that the foetus she is carrying has developed from a zygote formed by an XX-egg fertilized by Y-carrying sperm. Why was she advised to undergo M.T.P.? (CBSE-2011)

Q10. What is the inheritance pattern observed in the size of starch grains and seed shape of *Pisum sativum*? Work out the monohybrid cross showing the above traits. How does this pattern of inheritance deviate from that of Mendelian law of dominance? (CBSE-2012)

Q11. (a) List of three different allelic forms of gene 'I' in humans. Explain the different phenotypic expressions, controlled by these three forms.

(b) A woman with blood group 'A' marries a man with blood group 'O'. Discuss the possibilities of the inheritance of the blood group in the following starting with "yes" or "no" for each:

i. They produce children with blood group "A" only.

ii. They produce children some with "O" blood group and some with "A" blood group. (CBSE-2012)

Q12. A child suffering from Thalassaemia is born to a normal couple. But the mother is being blamed by the family for delivering a sick baby.

Q 13 a. What is Thalassaemia?

b. How would you counsel the family not to blame the mother for delivering a child suffering from this disease? Explain.

List the values your counselling can propagate in the families.

Q14. State and explain the "law of independent assortment" in a typical Mendelian dihybrid cross. (CBSE-2017)

Q15. (a) Write the scientific name of the organism T. H. Morgan and his colleagues worked with for their experiments. Explain the correlation between linkage and recombination with respect to genes as studied by them.

b. How did Strurtevent explain gene mapping while working with Morgon? (CBSE-2018)

Q16. Differentiate between incomplete dominance and co-dominance. Substantiate your answer with one example of each. (CBSE-2019)

XII- ARTIFICIAL INTELLIGENCE

A. Do any one activity based on Sample Capstone Project given in PART- C of your book.

Create a website containing an image classifier OR Create a Mobile APP using an image classifier

B. Work on your Capstone Project and fill the 'AI PROJECT LOGBOOK' accordingly.

C. Create your login in IBM SKILLS BUILD platform and do at least 3 courses of your interest and collect certificate.

D. Attempt the following Questions :-

1. Which of these sentences are punctuated correctly?

- a. When is the party.
- b. I had bread and a Banana for breakfast?
- c. I am so excited about my first foreign trip,
- d. This is Abdul's notebook.

2. Which of the following is NOT an element of communication within the communication process cycle?

- a. Channel
- b. Receiver
- c. Sender
- d. Time

3. Navigation keys are -

- a. Arrow keys
- b. Page up
- c. Page down
- d. All of these

4. Which of the following is not an example of Image recognition AI?

- a. Seeing an image to identify the object in it
- b. Identifying humans or animals in an image
- c. Understanding emotions of a human in the image
- d. Adding colour to the image

5. Which is the technology that helps machines understand and interpret a text sentence to provide relevant response?

- a. Natural Language Processing (NLP)
- b. Internet of Things (IoT)

- c. Blockchain
- d. Augmented Reality

6. Arrange AI Project Cycle Stage in an order:

- i. Evaluation ii. Problem Scoping iii. Data Exploration iv. Modelling v. Data Acquisition

- a. i<ii<iii<iv<v
- b. ii<v<iii<iv<i
- c. ii<iv<v<iii<i
- d. i<ii<iv<v<iii

7. We use _____ to gauge and get a better understanding before actually starting our project.

- a. 4W Problem canvas
- b. Problem statement template

- c. Data acquisition
- d. Algorithm

8. The people who face the stated problem and would be benefitted with the solution are termed as

- a. Stakeholders
- b. Key persons
- c. Who
- d. End user

9. Match the following

Column A: Terms	Column B: Examples
1. Oral Communication	A. Linguistic, physical, cultural, organizational structure, emotional, perception, technological
2. Message	B. Lectures, conferences, discussions, chat, etc
3. Receiver	C. Information/points or matter/content that you wish to communicate
4. Barriers	D. The person or group who receives the message.

a. 1 -> D; 2 -> A; 3 -> C; 4 -> B

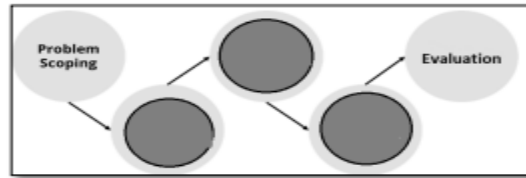
b. 1 -> C; 2 -> D; 3 -> A; 4 -> B

c. 1 -> B; 2 -> C; 3 -> D; 4 -> A

d. 1 -> C; 2 -> A; 3 -> D; 4 -> B

10. Fill in all the stages of the cycle here:

- i) Data Acquisition-> Data Exploration.-> Modelling
- ii) Data Exploration->Data Acquisition-> Modelling
- iii) Data Exploration-> Modelling-> Data Science
- iv) Data Acquisition-> Computer Vision-> Modelling



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

COMPUTER SCIENCE

A. Attempt following questions :

1. Explain default and positional argument with example.
2. What is Local Variable and Global Variables? Illustrate with example.
3. What will be the output of following code?

```
def check():  
    global num  
    num=1000  
    print(num)  
    num=100  
    print(num)  
check()  
print(num)
```

0. **What will be the output of following code?**

```
def Updater(A,B=5):  
    A = A // B  
    B = A % B  
    print(A,'$',B)  
    return A + B
```

```
A=100  
B=30  
A = Updater(A,B)  
print(A,'#',B)  
B = Updater(B)  
print(A,'#',B)  
A = Updater(A)  
print(A,'$',B)
```

5. **What will be the output of following code?**

```
def display(s):  
    l = len(s)  
    m=""  
    for i in range(0,l):  
        if s[i].isupper():  
            m=m+s[i].lower()  
        elif s[i].isalpha():  
            m=m+s[i].upper()  
    elif s[i].isdigit():  
        m=m+"$"   
    else:  
        m=m+"*"
```

```
print(m)
display("EXAM25@cbse.com")
```

B. MCQ:

- What is the output of `print 0.1 + 0.2 == 0.3`?
a) True b) False c) Machine dependent d) Error
- Select all options that print. `hello-how-are-you`
a) `print('hello', 'how', 'are', 'you')`
b) `print('hello', 'how', 'are', 'you' + '-' * 4)`
c) `print('hello-' + 'how-are-you')`
d) `print('hello' + '-' + 'how' + '-' + 'are' + 'you')`
- What will be the output of the following Python code snippet?
`d1 = {"john":40, "peter":45}`
`d2 = {"john":466, "peter":45}`
`d1 > d2`
a) True b) False c) Error d) None
- Suppose `d = {"john":40, "peter":45}`, what happens when we try to retrieve a value using the expression `d["susan"]`?
a) Since "susan" is not a value in the set, Python raises a `KeyError` exception
b) It is executed fine and no exception is raised, and it returns `None`
c) Since "susan" is not a key in the set, Python raises a `KeyError` exception
d) Since "susan" is not a key in the set, Python raises a syntax error
- Given a Tuple `tup1= (10, 20, 30, 40, 50, 60, 70, 80, 90)`.
What will be the output of `print (tup1 [3:7:2])`?
a. (40,50,60,70,80) b. (40,50,60,70) c. [40,60] d. (40,60)
- Identify the output of the following Python statements.

```
b = 1
for a in range(1, 10, 2):
    b += a + 2
print(b)
```


a. 31 b. 33 c. 36 d. 39
- ```
def my_func(var1=100, var2=200):
 var1+=10
 var2 = var2 - 10
 return var1+var2
print(my_func(50),my_func())
```

  
a. 100 200                      b. 150 300                      c. 250 75                      d. 250 300
- What will be the output of the following code?  

```
value = 50
def display(N):
 global value
 value = 25
 if N%7==0:
 value = value + N
 else:
 value = value - N
print(value, end="#")
display(20)
print(value)
```

- a. 50#50            b. 50#5            c. 50#30            d. 5#50#

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

```
import random
List=["Delhi","Mumbai","Chennai","Kolkata"]
for y in range(4):
 x = random.randint(1,3)
 print(List[x],end="#")
```

- a. Delhi#Mumbai#Chennai#Kolkata#  
b. Mumbai#Chennai#Kolkata#Mumbai#  
c. Mumbai# Mumbai #Mumbai # Delhi#  
d. Mumbai# Mumbai #Chennai # Mumbai

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

```
x = 3
def myfunc():
 global x
 x+=2
 print(x, end=' ')
print(x, end=' ')
myfunc()
print(x, end=' ')
```

- a. 3 3 3            b. 3 4 5            c. 3 3 5            d. 3 5 5

## **PAINTING**

### **1. Practical file work**

Do complete 10 sheets for file.

\*5 object drawings

\*5 composition (village ,picnic , festival scene etc)-

(3 or 4 human figure must draw in composition)

### **2. Theory**

Chapter 2,3,4 and 5 write in your register and learn also for test.

## **YOGA**

Q1. Make A Project On Shatkarmas

1.Neti   2.Kapalbhati   3.Basti   4.Trataka   5. Dhauti   6 .Nauli

Q2. Explain About Six Cleansing Techniques

Q3. Explain About 12 Steps Of Suryanamaskar . Paste Picture Of Each Step

## **PSYCHOLOGY**

### **Case profile**

Developing a case profile would primarily involve the use of qualitative techniques, such as observation, interview, survey, etc. during the course of preparing a case profile, the students would gain a first – hand experience in the use of these qualitative techniques. The main objective of preparing a case profile is to understand the individual in totality. This would further help in establishing the cause-and-effect relationship more accurately. The students may prepare a case profile of an individual who has excelled in areas like (sports, academics, music, etc) or having special needs like (learning disability, autism, down syndrome, etc). or those with interpersonal social problems like (poor body images, obesity, temper tantrums, substance abuse, not getting along with peers, withdrawn etc.)

**suggested format for preparing a case profile:**

## 1. Introduction

A brief introduction of about one or two pages presenting the nature of the problem, its incidence, likely causes and possible counselling outcomes.

- A half page (brief) summary of the case.

### Identification of data

- Name
- Diagnosed problem
- Voluntary or referral (parents, siblings etc.)

### Case history

- A paragraph giving age, gender, school attended, class (grade) presently enrolled in etc.
- Information about family mother, father, siblings (education, occupation, family income, house type, number of family)
- Information about physical health (height and weight) any disability/illness (in past and present) etc.
- Any professional help taken (past and present), giving a brief history of the problem, attitude towards counselling
- Recording signs (what is observed in terms of facial expressions, mannerisms, etc) and symptoms (what the subject reports, for example fears, worry, tension, sleeplessness, etc.)

### Concluding comments

## Ppt on Ch 4

Already distribute the topic accordingly roll numbers wise.

### Write the following practicals, as per the material given in class:

1. Self Concept test
2. Sinha comprehensive Anxiety test
3. Ravens intelligence test
4. FAT

## CHAPTER 2: SELF AND PERSONALITY

Q1) Differentiate between:

- Personal and social Identity
- Self as a subject and an object

Q2) What are the various types of self? Explain with the help of examples.

Q3) "Reema is a 17 yrs old girl who is obese and is not able to have a control over her diet." What tips would you give her to monitor her behavior for self-control?

Q4) What are the variations that exist between the western and the Indian cultural perspective about self?

Q5) "Personality characterizes individuals as they appear in most circumstances". Justify by explaining its characteristics in detail.

Q6) How does the Indian concept of Ayurveda classify people and their Personality?

Q7) "Ravi is a 25 yrs old youth who possesses high motivation, lacks patience, feels short of time & is always pressured by work".

- Which type of personality do you think Ravi is possessing?
- What are the other types of personality that may exist?
- Name the psychologists who have given these types of Personality?

Q8) How are traits different from types? Give examples.

Q9) Using Allport's theory, Identify the various types of traits in the given situation. Explain them in detail.

“Supriya is a very warm and friendly girl who is often known as the FLORENCE NIGHTINGALE of the class. She is a very traditional girl who always prefers to wear Indian or ethnic clothes. She hates the western culture especially the trend of going to parties and discotheque.”

Q10) Explain Paul Coasta’s and Robert Mc Crae’s personality theory?

Q11) “According to Freud ,structural elements of personality reside in the unconscious as forces and can be inferred from the way people behave” Justify

Q12) Name the psychologists who who worked with freud but later separated and developed their own theories?

Q13) Explain the Psychosexual development theory given by freud?

Q14) “Rahima is a7yrs old girl who lives in an orphanage. She is very clear with the abstract concepts like Religion, god, unity and oneness without anyone’s guidance or teaching.”

- Which personality theory do you think relates to such experiences?
- Name the psychologist who gave this theory?
- Explain the theory and its concepts in detail?

Q15 Distinguish between the Source and surface traits given by Raymond Cattell? Give examples.

Q16) Identify and define the Defense mechanisms given below:

- “A student having a strong desire to cheat in the exam, is not able to do so because of the strong revolt by the conscious within. So he suspects that the other classmates might be cheating.
- A boy who was reared to believe that sex is evil and dirty may become anxious every time sexual feelings surge to the surface. So in order to defend against the anxiety, he joined the groups against sex in media.
- A tense father who had troubles in office gave a harsh beating to the child who was watching T.V. The father gave the excuse that he was acting for the child’s good.
- A weak student going for a movie just one day before the exams gives the excuse of “need to relax” to do the exam well.

Q17) “Psychodynamic theories have faced a lot of challenges and criticism from the Neo and Post Freudians”. Explain the se criticisms by picking up examples from the Freudian theory.

Q18) How is Horney’s theory different from that of Freud’s .

Q19) what are the common characteristics of Humanistic theories?

Q20) Differentiate between Oedipus and Electra complex?

Q21) “A healthy person not only adjusts to the society but also has a quest to know oneself deeply”. Explain in the context of Humanistic approach.

### **MULTIPLE CHOICE QUESTIONS**

Q1)\_\_\_refers to the attributes of a person that makes him different from the others

- a) Social identity      b) Familial identity      c) Personal identity

Q2) Goals and ideas that are considered important and worthwhile to achieve is known as\_\_\_\_\_.

- a) Character      b) Disposition      c) Trait      d) Values

Q3) The way we perceive ideas and ourselves we hold about our competencies is called\_\_\_\_\_.

- a) Self Esteem      b) Self Efficacy      c) Self-Regulation      d) Self Concept

Q4) The tendency of a person to react to given situation in a particular way is called\_\_\_\_\_.

- a) Temperament      b) Trait      c) Character      d) Disposition

Q6) The value judgment of one’s own value or worth is called\_\_\_\_\_.

- a) Self-regulation      b) Self Concept      c) Self Esteem      d) Self Efficacy

Q7) Cattell applied a statistical technique called\_\_\_\_\_to find the various types of traits.

Q8)\_\_\_\_\_ guna includes intensive activity, desire for self-gratification and envy for others.

- a) Tamas guna      b) Rajas Guna      c) Sattva Guna

- Q9)\_\_\_refers to rewarding behavior's that have pleasant outcome.  
 a) Self Instruction      b) Self Control      c) Self-Regulation      d)Self-Reinforcement
- Q10) Type C and D personality was suggested by\_\_\_\_\_.  
 a) Binet                      b) Sternberg                      c) Morris                      d) Friedman
- Q11)\_\_\_\_\_approach focuses on the specific psychological attributes along which individuals tend to differ in consistent and stable ways  
 a) Interactional approach    b) Type approach    c) Trait approach
- Q12) Freud used\_\_\_method in which a person is asked to openly share all the thoughts and ideas that comes to the client's mind.  
 a) Dream interpretation      b) Free association      c) Word Association      d) Freudian Slip
- Q13) Eysenck proposed a third dimension called\_\_\_\_.  
 a) Extraversion              b) Psychotism                      c) Neuroticism
- Q14)\_\_\_works on the pleasure principle.  
 a) Superego    b) Conscious    c) Subconscious                      d) Id
- Q15)\_\_\_proposed important typology by grouping people into Extraverts and Introverts
- Q16) Freud said that\_\_\_is energized by life and death instinct.  
 a) Id              b) Ego              c)Super Ego
- Q17) The way of reducing anxiety by distorting reality is called\_\_\_\_.  
 a) Libido              b) Psychoanalysis                      c) Defense Mechanisms              d) psychodynamic
- Q18) Analytical Psychology was developed by\_\_\_\_\_.  
 a) Sigmund Freud    b) Raymond Cattell              c) Carl Jung              d) Gordon Allport
- Q19) When parent's behavior towards a child is discouraging or indifferent, a feeling of\_\_results.  
 a) Free floating anxiety      b) Basic anxiety    c) Generalized anxiety
- Q20) The theory of instrumental conditioning was developed by\_\_\_\_.  
 a) Albert Bandura    b) B.F. Skinner      c) Ivan Pavlov    d) Wolfgang Kohler
- Q21) According to Adler, every individual suffers from the feeling of inadequacy and guilt known as \_\_\_\_  
 a) Identity Crisis      b) Basic anxiety              c) Inferiority Complex      d) Regress
- Q22)Maslow has given a detailed account of psychologically healthy person in terms of their attainment of\_\_.  
 a) Self Esteem              b) Self-Regulation              c) Self Actualization              d) Self Reinforcement
- Q23)\_\_\_is a tendency of the subject to agree with the items irrespective of their content.  
 a) Social Desirability    b) Acquiescence              c) Halo Effect                      d) Situational Stress Test
- Q24)\_\_\_was developed to assess the unconscious motives and feelings  
 a) Self report Measures      b) Psychometric Testing              c) Behavioral Analysis              d) Projective Techniques

## **HINDI**

**निम्नलिखित में से किसी एक विषय पर लगभग 2000 शब्दों में परियोजना कार्य पूरा कीजिए।**

कुल अंक:                      10

विषय वस्तु।:                      2

भाषा एवं प्रस्तुति:                      3

शोध एवं मौलिकता:                      5

**नोट - यथासंभव चित्रों का प्रयोग भी अवश्य करें।**

**विषय**



1. साहित्य सम्राट प्रेमचंद
- 2 कृष्ण भक्त कवि सूरदास
3. जनमानस के कवि तुलसीदास
4. विज्ञापन की दुनिया
5. जनसंचार के माध्यम
6. कबीर दास एक समाज सुधारक कवि
7. समसामयिक विषयों पर कोई पांच निबंध