CLASS XII A	HOLIDAY HOMEWORK 2024-25

ENGLISH

General Instructions:

1. **Read the newspaper daily with special emphasis on school based reports, notices, posters and articles. Pay attention to the language used.**
2. **Attempt the following questions in English Registers.**
3. **Date of submission is 19 June,2024.**

READING

Q1. Read the passage and on the basis of your understanding of the passage answer the questions given below:

1.Ghost nets aren't supernatural, but they are legitimately scary. A ghost net is a fishing net that's been lost or abandoned in the ocean. They are one particularly appalling part of the global ghost fishing problem, which includes fishing gear abandoned in the water. Any net or line left in the ocean can pose a threat to marine life. Just because a net is no longer used by fishers doesn't mean it stops working. These nets continue to trap everything in their path, presenting a major problem for the health of our oceans and marine life.

2.Ghost nets entangle sea turtles, dolphins and porpoises, birds, sharks, seals and more, apart from catching fish. The nets keep animals from moving freely, cause injuries and keep mammals and birds from rising to the surface for air. Since hundreds of animals can be caught in a single net, this threat is monumental. The ghost nets harm coral reefs too—breaking corals, exposing them to disease and even blocking the reefs from needed sunlight.

3.Ghost nets are also a major contributor to the ocean plastics' crisis. Most modern nets are made of nylon or other plastic compounds that can last for centuries. According to a 2018 study in Scientific Reports, ghost nets make up at least 46 percent of the Great Pacific Garbage Patch. Those abandoned fishing lines and nets that do breakdown never go away; they just become smaller pieces of plastic. Marine animals mistake this microplastic for food and eat it, which can harm internal organs, keep them from eating and expose them to toxic chemicals.

4.Exorcising ghost nets from our oceans will require commitment, cooperation and innovation. Many groups are working to remove ghost nets from the sea and are collaborating with local fishers and governments around the world to identify target areas and remove as many nets as possible. In 2015, a single World Wildlife Fund for Nature (WWF)-led mission in the Baltic Sea hauled up 268 tons of nets, ropes and other material.

5.To stop these nets from becoming ghosts in the first place, conservation organisations advocate for fishing gear that can be traced to its owner so anyone dumping nets can be fined and refundable deposits on nets to encourage returning or recycling rather than littering. Tools like sonar reflectors that can make ghost nets easier to find and working with small-scale fisheries to develop more sustainable fishing gear and practices are other suggestions. It is only by attacking

this problem from all sides, together with conservation partners, fishers and supporters, can we banish ghost nets and protect our oceans.

Based on your understanding of the passage, answer the questions given below.

i Complete the sentence by choosing an appropriate option.
Ghost nets have been named so because they
a. cause much harm to the marine life.
b. are functional though not in use by fishers.
c. are not owned by anyone.
d. act as a snare for all animals in oceans.

ii Comment on the writer's reference to the ghost nets in paragraph one, as a health problem for the oceans.

iii List the two ways being entangled in a ghost net is likely to impact a walrus.

iv Select the option that conveys the opposite of 'negligible', from words used in paragraph two.
a. Unimpressive
b. Monumental
c. Exposing
d. threat

v The writer would agree with the given statements based on paragraph three, EXCEPT:
a. Most ghost nets take a few years to completely disintegrate.
b. Ghost nets contribute to the Great Pacific Garbage Patch.
c. Most ghost nets provide nutrition to marine animals, upon disintegration.
d. Ghost nets can curtail freedom of marine animals.

vi Some records share that fishing nets used to be made of common rope using natural fibres, prior to the 1960s. Based on your understanding of paragraph three, list one major advantage that these had over the fishing nets being used in present times.

vii Why is it fair to say that commitment and innovation have to go hand-in-hand to rid the oceans of ghost nets?

viii Complete the given sentence with an appropriate inference, with respect to the following:
The writer quotes the example of the WWF-led mission in the Baltic Sea (Paragraph 4), in order to.....

ix How can the solutions, suggested in paragraph five, best be described?
a. practical
b. presentable
c. popular
d. prejudiced

x Select the most suitable title for the above passage.
a. The Scary Side of Ghost Nets

b. Ghost Nets – A Result of Human Dominance
c. Ghost Nets – A Menace to Marine Life
d. Ways to Tackle the Problem of Ghost Nets

Q2. Read the passage and on the basis of your understanding of the passage answer the questions given below:

1. India has never subscribed to the doctrine of militarism and war in its history. Here war was never treated as an ideal. It was only tolerated as unavoidable and inevitable, and all attempts were made to check it and bring it under control. In spite of the frequency of wars in ancient India, in spite of highly developed military organization, techniques of war and imperialism, and in spite of the open justification of war as national policy, the heart of India loved pacifisms as an ideal capable of realization. India's symbolic role was that of a peacemaker and it sincerely pinned its faith on the principle of 'Live and let live'. At least philosophically, India supported the cause of peace not only in national affairs but in international affairs also. All the great seers of the yore visualized the unity of life, permeating all beings, animate or inanimate, which ruled out killing and suicidal wars.

2. This doctrine of philosophical pacifisms which was practiced by ancient Aryans is, no doubt, a question of controversial nature. Certainly, the great Indian teachers and savants stuck to this doctrine tenaciously and in their personal life they translated it into practice and preached it to masses.

3. Another culture of those times, the existence of which has been proved by the excavations of Mohanjo-Daro, also enunciated the doctrine of pacifism and friendship to all. Strangely enough, the Indus Valley civilization has revealed no fortification and very few weapons.

4. Ahinsa or the doctrine of non-violence in thought, speech and action assumed a gigantic importance in the Buddhist and Jain period. By a constant practice of this virtue, man becomes unassailable by even wild beasts, who forget their ferocity the moment they enter the circumference of his magnetic influence. The monks and nuns of these churches were apostles of peace, who reached every nook and corner of the world and delivered the message of love to war-weary humanity. The greatest votary was the royal monk Ashoka, who in reality was responsible for transforming Ahimsa as an act of personal virtue, to Ahimsa as an act of national virtue.

5. Many historians recounting the causes of the downfall of the Mauryas, hold the pacific policy of Ashoka which had eschewed the aggressive militarism of his predecessors, responsible for an early decay of the military strength of the state and its consequent disintegration, leading to the rise of Sungas, Kanvas and Andhras. But, in reality the fault lies with the weak successors of Ashoka, who could not wield the weapon of non-violence with a skill and efficiency which required the strength of a spiritual giant like Ashoka. They failed due to their subjective weakness. Pacifism itself was no cause of their failure.

6. Besides the foregoing philosophical and religious school of thought, even many political authorities gave their unqualified support to the cause of pacifisms. They recognized the right of rivals to exist, not mainly as enemies, but as collaborators in the building of a civilization operation. Thus, for centuries, in the pre-Mauryan India, scores of small independent republics existed and flourished without coming in clash with each other.

7. With regard to Kautilya, the much-maligned militarist and the so-called Machiavelli of India, He thinks that the object of diplomacy is to avoid war.

8. The Mahabharata observes in the connection, "A wise man should be content with what can be obtained by the expedients of conciliation, gift and dissention." It denounces the warring world of men by comparing it to a dog-kennel. "First there comes the wagging of tails, then turning of one round to other,

then the show of teeth, then the roaring and then comes the commencement of the fights. It is the same with men; there is no difference whatever." Yajnavalkya adds, "War is the last expedient to be used when all others have failed." Likewise, Sri Krishna whose Bhagwat Gita has been styled by some as 'a song of the battle', should not be considered out and out militarist. When all the three expedients were exhausted, then alone the fourth was resorted to.

9. All possible avenues of peace such as negotiation, conciliation through conference, meditation and so on, were explored before the war was resorted to. This proves that the heart of ancient India was sound and it longed for peace, although war also was not treated as an anathema, which was to be avoided as far as possible.

2.1 Answer the following questions in 20-30 words:

(i) How was war treated in India?
(ii) How did the Aryans practice the Doctrine of Pacifism?
(iii) What is the meaning of co-existence with rivals?
(iv) Why should Bhagavat Gita not be considered as 'A song of the battle'?

2.2 Answer any three of the following questions in 30-40 words:

(i) What kind of unity did all the seers visualize?
(ii) By some, Ashoka was considered as the cause of the downfall of the Mauryas. Do you agree? Give reasons for your answer.
(iii) Which options were explored by Sri Krishna before resorting to war?
(iv) Throw some light on the thinking of Kautilya regarding war.

2.3 Pick out the words/phrases from the passage which are similar in meaning to the following:

(i) defensive wall (para 3)
(ii) the beginning (para 8)

Q3. Choose a significant topic (Social /Environmental issues) that directly pertains to our current circumstances for the project work to be done in Term 2. Listen to podcasts/interviews/ radio or T.V documentary on the same topic.

WRITING

Q4. Choose your favourite scene from any one of the chapters given below and make a comic strip on the same, on A3 size sheet:

- The last Lesson
- Lost Spring
- My Mother at Sixty-Six
- The Third Level

Q5. Prepare an attractive poster in not more than 50 words highlighting the importance and ways of rainwater harvesting.

Q6. You are Josely Mathew, the President of the school book club. The club is organising a drive for promoting reuse of study materials and books. Draft a notice in about 50 words, for the school notice board, addressing students of classes X-XII, informing them about this drive and urging them to contribute to the endeavour. Mention how the donated books would would benefit a charitable cause

Q7. You are Raman/ Ritu studying in Bharat School, Delhi. The road leading to your school is very congested and full of potholes. Students and parents are often caught in traffic jam. In spite of several representations, the government has not done anything to improve the condition of the road. Write a letter to the Editor of Times of India drawing the attention of the government towards this problem. (120-150 words).

Q8. Taking selfies has become a rage and is a global phenomenon. It has cost us several lives and also immortalised several moments. Write an article for a National Daily on the trend of taking selfies and its impact on people. You are Aditi/ Aditya. (150-200 words).

LITERATURE

Q9. Attempt the questions given below in 120-150 words each.

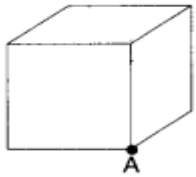
a) Justify the title 'The Last Lesson'
b) How is Mukesh's attitude towards his situation different from that of Saheb? Why?
c) 'Imagination is a temporary refuge from reality'. Explain with reference to the chapter 'The Third Level'.
d) In today's fast paced life, sometimes children are forced to neglect their ageing parents. With reference to 'My Mother at Sixty-Six', what do you think children can do to have an involved and inclusive relationship with their elderly parents?

PHYSICS

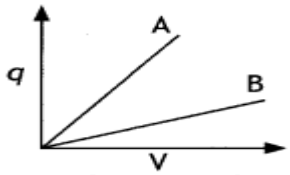
Date of submission: 20 June, 2024

I. Complete the following assignment in your physics notebook

1. What is the total flux through the faces of the cube with side of length a if a charge q is placed at corner A of the cube ?

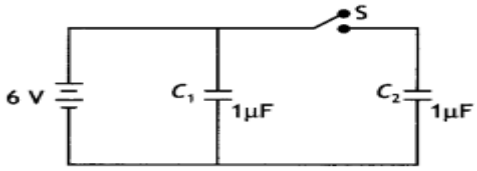


2. A hollow metal sphere of radius 5 cm is charged such that the potential on its surface is 10 V. What is the potential at the centre of the sphere?
3. The given graph shows the variation of charge 'q' versus potential difference 'V' for two capacitors C_1 and C_2. Both the capacitors have the same plate separation but the plate area of C_2 is greater than that of C_1. Which line (A or B) corresponds to C_1 and why?

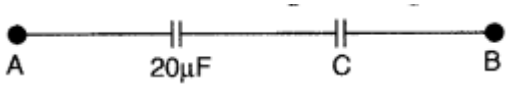


4. Why is electrostatic potential constant throughout the volume of the conductor and has the same value (as inside) on its surface?
5. The figure shows two identical capacitors, C_1 and C_2, each of 1 μF capacitance connected to a battery of 6 V. Initially switch 'S' is closed. After some time 'S' is left open and dielectric slabs of dielectric constant K = 3 are inserted to fill completely the space between the plates of the two

capacitors. How will (i) the charge and (ii) potential difference between the plates of the capacitors be affected after the slabs are inserted?



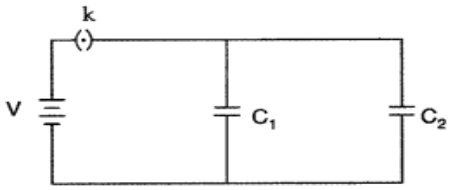
6. A particle, having a charge +5 μC, is initially at rest at the point x = 30 cm on the x axis. The particle begins to move due to the presence of a charge Q that is kept fixed at the origin. Find the kinetic energy of the particle at the instant it has moved 15 cm from its initial position if (i) Q = +15 μC and (ii) Q = -15 μC
7. Two identical capacitors of 12 pF each are connected in series across a battery of 50 V. How much electrostatic energy is stored in the combination? If these were connected in parallel across the same battery, how much energy will be stored in the combination now? Also, find the charge drawn from the battery in each case.
8. Two uniformly large parallel thin plates having charge densities + σ and – σ are kept in the X-Z plane at a distance ‘d’ apart. Sketch an equipotential surface due to electric field between the plates. If a particle of mass ‘m’ and charge 'q’ remains stationary between the plates, what is the magnitude and direction of this field?
9. Two small identical electrical dipoles AB and CD, each of dipole moment ‘p’ are kept at an angle of 120°. What is the resultant dipole moment of this combination? If this system is subjected to electric field $(\overrightarrow{E})$ directed along + X direction, what will be the magnitude and direction of the torque acting on this?
10. Plot a graph showing the variation of current density (j) versus the electric field (E) for two conductors of different materials. What information from this plot regarding the properties of the conducting material, can be obtained which can be used to select suitable materials for use in making (i) standard resistance and (ii) connecting wires in electric circuits?
11. The equivalent capacitance of the combination between A and B in the given figure is 4 μF.



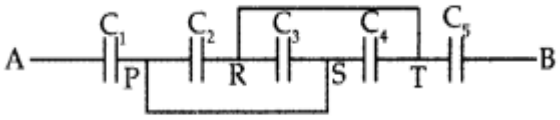
(i) Calculate capacitance of the capacitor C.
(ii) Calculate charge on each capacitor if a 12 V battery is connected across terminals A and B.
(iii) What will be the potential drop across each capacitor?

12. Two parallel plate X and Y capacitors, X and Y, have the same area of plates and same separation between them. X has air between the plates while Y contains a dielectric medium of $\varepsilon_r = 4$.
(i) Calculate capacitance of each capacitor if equivalent capacitance of the combination is 4 μF.
(ii) Calculate the potential difference between the plates of X and Y.
(iii) What is the ratio of electrostatic energy stored in X and Y?
13. Two parallel plate capacitors of capacitances C_1 and C_2 such that $C_1 = 3C_2$ are connected across a battery of V volts as shown in the figure. Initially the key (k) is kept closed to fully charge the capacitors. The key is now thrown open and a dielectric slab of dielectric constant ‘K’ is inserted in the two capacitors to completely fill the gap between the plates,
Find the ratio of

(i) the net capacitance and
(ii) the energies stored in the combination, before and after the introduction of the dielectric slab



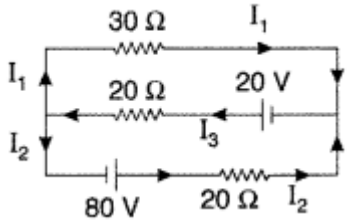
14. (i) Find equivalent capacitance between A and B in the combination given below. Each capacitor is of 2 μF capacitance



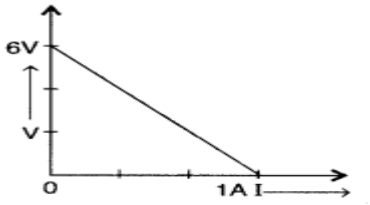
(ii) If a DC source of 7 V is connected across AB, how much charge is drawn from the source and what is the energy stored in the network?

15. Two metallic wires of the same material have the same length but cross-sectional area is in the ratio 1:2. They are connected
(i) in series and
(ii) in parallel.
Compare the drift velocities of electrons in the two wires in both the cases (i) and (ii)

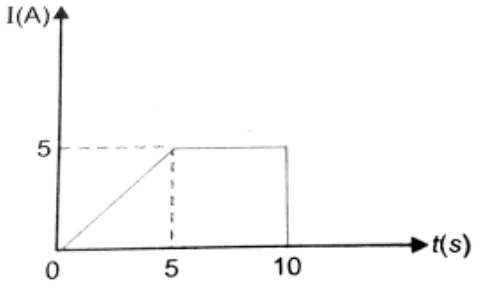
16. Use Kirchhoff's rules to determine the value of the current I_1 flowing in the circuit shown in the figure.



17. The plot of the variation of potential difference A across a combination of three identical cells in series, versus current is as shown below. What is the EMF and internal resistance of each cell?



18. Two wires of equal length, one of copper and the other of manganin have the same resistance. Which wire is thicker?
19. Draw a graph showing the variation of resistivity with temperature for nichrome. Which property of nichrome is used to make standard resistance coils?
20. Figure shows a plot of current 'l' flowing through the cross-section of a wire versus the time 't'. Use the plot to find the charge flowing in 10 s through the wire.



II. Note down the following activities from your lab manual in your activity file, with relevant diagrams to be drawn on the blank side.

1. To assemble the components of a given electrical circuit.
2. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
5. To study the nature and size of the image formed by a convex lens, on a screen by using a candle and a screen (for different distances of the candle from the lens).
6. To observe diffraction of light due to a thin slit.

CHEMISTRY

Date of submission: 21 June 2024

I Prepare an investigatory project in the following format:

Cover Page
Acknowledgement
Index
Introduction
Content (10-15 Pages)
Conclusion
Bibliography

II Complete the following assignment in your Chemistry register.

1. Why is thionyl chloride process the best method to prepare alkyl chlorides from alcohols?

2. What is the role of acetone in Finkelstein reaction?

3. Give the order of reactivity of the following towards SN_1 mechanism:
   a) RI, RCl, RBr, RF
   b) CH_3CH_2Br, $(CH_3)_2CHBr$, $(CH_3)_3Br$
   c) Vinylic chloride, Benzylic chloride, Chlorobenzene, Allylic chloride

4. Haloalkanes with KCN form alkyl cyanides while AgCN will give alkyl isocyanide as major product. Why?

5. What is a chiral carbon? Why does S_N1 give a racemic mixture whereas S_N2 gives inverted product?

6. How can you convert aniline into Iodobenzene?

7. Why do aryl halides not undergo nucleophilic substitution?

8. Why is X group in aryl halides ortho- para directing but deactivating for electrophilic substitution?

9. p-Nitrochlorobenzene undergoes nucleophilic substitution more easily than Chlorobenzene. Why?

10. Give a chemical test to distinguish between the following pairs of compounds:
    - chloroethane and bromoethane
    - chloroethane and chlorobenzene

11. What is phosgene gas?

12. Carry out the following conversions:
    (i) Butane to 2-Nitrobutane
    (ii) But-1ene to But-2ene
    (iii) 1-Bromoethane to Butane
    (iv) Chlorobenzene to p-Nitrophenol
    (v) Propanol to Butane nitrile
    (vi) Ethane to Ethene
    (vii) Ethene to Ethyne

13. Ibrahim collected 10mL each of fresh water and ocean water. He observed that one sample labeled "P" froze at 0 ^oC while the other "Q" at -1.3^oC. Ibrahim forgot which of the two, "P" or "Q" was ocean water. Help him identify which container contains ocean water, giving suitable rationalization for your answer.

14. A 5% solution of $Na_2SO_4.10H_2O$ (MW = 322 $gmol^{-1}$) is isotonic with 2% solution of non-electrolytic, nonvolatile substance X. Find out the molecular weight of X.

15. If relative decrease in vapour pressure is 0.4 for a solution containing 1 mol NaCl in 3 mol of H_2O, then what will be the % ionization of NaCl?

16. When 2.56 g of sulphur was dissolved in 100 g of CS_2, the freezing point lowered by 0.383 K. Calculate the formula of sulphur (S_X). (K_f for CS_2 = 3.83 K kg mol^{-1}, Atomic mass of sulphur = 32 g mol^{-1}]

17. If O_2 gas is bubbled through water at 293 K, how many moles of O_2 gas would dissolve in 1 L of water? Assume that O_2 gas exerts a partial pressure of 0.823 bar. Given that the Henry's law constant for O_2 at 293 K is 34.86 kbar.

BIOLOGY

Date of submission: 22 June 2024

1. You are required to make mind maps on the following topics given below on an A3 sheet. Draw/Paste pictures as well.
   (a) Gametogenesis
   (b) ART

2. Complete the practical file and write the following experiments:
   (a) Flowers adapted to pollination by different agencies (wind, insects, birds).
   (b) Pollen germination on stigma through a permanent slide or scanning electron micrograph.
   (c) Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
   (d) Meiosis in onion bud cell or grasshopper testis through permanent slides.
   (e) T.S. of blastula through permanent slides (Mammalian).
   (f) Controlled pollination - emasculation, tagging and bagging
   (g) Common disease-causing organisms like *Ascaris*, *Entamoeba*, *Plasmodium*, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause (spotting).

3. Prepare a 3D working model on any one of the following topics.

   (a) **DNA Replication Model**: Construct a model illustrating the process of DNA replication. Use materials to represent DNA strands, enzymes like DNA polymerase, and nucleotides. Show how DNA unwinds, separates, and synthesizes new strands during replication.
   (b) **Biotechnology Model**: Build a model to demonstrate biotechnological techniques such as PCR (polymerase chain reaction), gel electrophoresis, or genetic engineering. Use materials to represent DNA, enzymes, and laboratory equipment, and explain how these techniques are used in research and biotechnology applications.

4. Prepare your investigatory project in the following format on the topics allotted in class.

   Cover Page
   Acknowledgement
   Index
   Introduction
   Content (10-15 Pages)
   Conclusion
   Bibliography

SACHDEVA GLOBAL SCHOOL

Assignment

Complete the following assignment in Biology notebook.

1. In a flowering plant, a microspore mother cell produces four male gametophytes while a megaspore mother cell forms only one female gametophyte. Explain.
2. i) Name the organic material exine of the pollen grain is made up of. How is this material advantageous to pollen grain?
   ii) It is observed that it does not form a continuous layer around the pollen grain. Give a reason.
   iii) How are 'pollen banks' useful?
3. What is cleistogamy? Write one advantage and one disadvantage of it, to the plant.
4. You are conducting artificial hybridisation on papaya and potato. Which one of them would require the step of emasculation and why? However, for both you will use the process of bagging. Justify giving one reason.
5. Name the source of gonadotropins in human females. Explain the changes brought about in the ovary by these hormones during the menstrual cycle.
6. (a) Where do the signals for parturition originate in humans?
   (b) Why is it important to feed the new-born babies on colostrum?
7. (a) When and how does placenta develop in human females?
   (b) How is placenta connected to the embryo?
   (c) Placenta acts as an endocrine gland. Explain.
8. At the time of independence, the population of India was 350 million which exploded to over 1 billion by May 2000. List any two reasons for this rise in population and any two steps taken by the government to check this population explosion.
9. Explain how do the following act as contraceptives-
   (a)CuT (b)'Saheli'
10. Explain the zygote intrafallopian transfer technique (ZIFT). How is intrauterine transfer technique (IUT) different from it?

MATHEMATICS

Date of submission: 25 June 2024

Complete the following assignment in Mathematics notebook.

1. Give an example of a 3 x 3 matrix which is
   (a) Symmetric Matrix
   (b) Skew-Symmetric Matrix
   (c) Neither Symmetric nor Skew-Symmetric Matrix
   (d) Symmetric as well as Skew-Symmetric Matrix

2. If $f(x) = \frac{1}{\sqrt{1-x^2}}\begin{bmatrix} 1 & -x \\ -x & 1 \end{bmatrix}$ then prove that $f(x).f(y) = f(\frac{x+y}{1+xy})$.Hence show that $f(x).f(-x) = 1$, where $|x| < 1$.

3. If order of Matrix A be m x n, then what will be the order of matrix B if
   (a) AB & BA both are defined
   (b) AB' & B'A both are defined

4. Find the matrix A, if $\begin{pmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{pmatrix} A = \begin{pmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{pmatrix}$.

5. If $A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$ find $A^2 - 5A + 4I$ and hence find a matrix X such that $A^2 - 5A + 4I + X = O$

6. Prove that the function defined by f : N→N defined by $f(x) = x^2 + x + 1$ is one-one but not onto.

7. Prove that $\cos[\tan^{-1}\{\sin(\cot^{-1}x)\}] = \sqrt{\frac{1+x^2}{2+x^2}}$

8. If $A = \begin{bmatrix} 2 & 3 \\ 5 & -2 \end{bmatrix}$ be such that $A^{-1} = kA$, then find the value of k.

9. Find the values of x, y and z if $A = \begin{bmatrix} 0 & 2y & z \\ x & y & -z \\ x & -y & z \end{bmatrix}$ satisfies $A' = A^{-1}$

10. Let A = {1,2,3, ……,9}and R be a relation on A × A defined by R = {(a, b): $|a - b|$ is even}is an equivalence relation. Also find the equivalence class of 7.

11. Find the value of $\sin^{-1}(\sin \frac{5\pi}{6}) + \cos^{-1}(\cos \frac{13\pi}{6})$

12. Find the value of the expression: $\sin(2\tan^{-1}\frac{1}{3}) + \cos(\tan^{-1}2\sqrt{2})$.

13. Find the real solution of the equation: $\tan^{-1}\sqrt{x(x+1)} + \sin^{-1}\sqrt{x^2+x+1} = \frac{\pi}{2}$.

14. Let R be the relation in R × R defined by (a, b) R (c, d) if ad (b + c) = bc (a + d) for (a, b), (c, d) in R × R. Prove that R is an equivalence relation.

15. Let A = {1, 2, 3, … 9} and R be the relation in A ×A defined by (a, b) R (c, d) if a + d = b + c for (a, b), (c, d) in A ×A. Prove that R is an equivalence relation and also obtain the equivalent class [(2, 5)].

16. Sherlin and Dhanuja are playing Ludo at home. While rolling the dice, Sherlin's sister Raji observed and noted the possible outcomes of the throw every time belongs to set {1,2,3,4,5,6}. Let A be the set of players while B be the set of all possible outcomes.
A = {S, D}, B = {1,2,3,4,5,6}

(a) Let $R : B \to B$ be defined by R = $\{(x, y): y \text{ is divisible by } x\}$ is
   (i) Reflexive and transitive but not symmetric
   (ii) Reflexive and symmetric and not transitive
   (iii)Not reflexive but symmetric and transitive
   (iv)Equivalence

(b) Raji wants to know the number of functions from A to B. How many number of functions are possible?
   (i) 6^2 (ii) 2^6 (iii) 6! (iv) 2^{12}

(c) Let R be a relation on B defined by R = {(1,2), (2,2), (1,3), (3,4), (3,1), (4,3), (5,5)}.Then R is
   (i) Symmetric (ii) Reflexive (iii) Transitive (iv) None of these t

(d) Raji wants to know the number of relations possible from A to B. How many numbers of

relations are possible?

(i) 6^2 (ii) 2^6 (iii) 6! (iv) 2^{12}

(e) Let R: $B \rightarrow B$ be defined by R={(1,1),(1,2), (2,2), (3,3), (4,4), (5,5),(6,6)}, then R is

(i) Symmetric
(ii) Reflexive and Transitive
(iii)Transitive and symmetric
(iv)Equivalence

17. On her birth day, Seema decided to donate some money to children of an orphanage home. If there were 8 children less, everyone would have got 10 more. However, if there were 16 children more, everyone would have got Rs. 10 less. Let the number of children be x and the amount distributed by Seema for one child be y (in Rs.)

Based on the information given above, answer the following questions:

(a) The equations in terms x and y are

(i) 5x-4y = 40 ,5x-8y = -80
(ii) 5x-4y = 40 5x-8y = 80
(iii)5x-4y = 40 5x+8 y= -80
(iv)5x+4y = 40 5x-8y = -80

(b) Which of the following matrix equations represent the information given above?

(i) $\begin{bmatrix}5 & 4\\5 & 8\end{bmatrix}\begin{bmatrix}x\\y\end{bmatrix} = \begin{bmatrix}40\\-80\end{bmatrix}$

(ii) $\begin{bmatrix}5 & -4\\5 & -8\end{bmatrix}\begin{bmatrix}x\\y\end{bmatrix} = \begin{bmatrix}40\\80\end{bmatrix}$

(iii) $\begin{bmatrix}5 & -4\\5 & -8\end{bmatrix}\begin{bmatrix}x\\y\end{bmatrix} = \begin{bmatrix}40\\-80\end{bmatrix}$

(iv) $\begin{bmatrix}5 & 4\\5 & -8\end{bmatrix}\begin{bmatrix}x\\y\end{bmatrix} = \begin{bmatrix}40\\-80\end{bmatrix}$

(c) The number of children who were given some money by Seema, is

(i) 30 (ii) 40 (iii) 23 (iv) 32

(d) How much amount is given to each child by Seema?

(i) ₹ 32 (ii) ₹ 30 (iii) ₹ 62 (iv) ₹ 26

(e) How much amount Seema spends in distributing the money to all the students of the Orphanage?

(i) ₹ 609 (ii) ₹ 960 (iii) ₹ 906 (iv) ₹ 690

COMPUTER SCIENCE

Date of Submission: 26 June, 2024

GENERAL INSTRUCTIONS:

- Code for the following programs to be printed on A4 size sheets along with the snapshot of the output
- Font for the Code: Courier New: Font-size – 12
- Only one program and its output to be printed on one A4 size sheet (single side print)

1. Write a program to check if the given number (positive Integer) is a palindrome or

not.

2. Write a program to reverse a given string
   a. Using iterative statements in Python
   b. Using Slicing Method in Python
3. Write a program to remove all numbers ending with 7 from a given list (without using Python in-built functions)
4. Write a program to find and display the sum of all the integers (positive/negative) that are multiples of 3.
5. Write a Python program to create and print a dictionary where the keys are numbers between 1 and n (both included); when n is given by the user and the corresponding values are the square of the keys.
6. Write a program in Python to use standard library- Math and perform the following-
   a. Find the Area of a circle
   b. Find the square root of a given number
7. Write a program that inputs a string from the user and replaces every N^{th} character of the string with #.
8. Write a menu-driven program in Python to create a calculator with the help of user defined functions
9. Write a user defined function that takes a given number as an input argument and returns the Fibonacci series upto the given number from the function.
10. Write a function, lenWords(STRING), that takes a string as an argument and returns a tuple containing length of each word of a string. For example, if the string is "Come let us have some fun", the tuple will have (4, 3, 2, 4, 4, 3)

PHYSICAL EDUCATION

Date of submission: 25 June 2024

To be done in Record/Practical File.

I. Practical-1: Fitness test administration for all items.
II. Practical-2: Procedure for Asanas, benefits & contraindication for any two Asanas for each lifestyle disease.
III. Practical-3: Procedure for administering Senior Citizen Fitness Test for 5 elderly family members.
IV. Practical-4: Any one game of the student's choice from the list below. Labelled diagram of field & equipment (Rules, Terminologies & Skills) of the same game.
Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce & Unified Basketball (CWSN).

- Record File should be of the new pattern.

Assignment

Complete the following assignment in P.ED notebook.

1. What are the objectives of intramural tournaments?
2. Discuss a method you would choose to spread health awareness and harmony in your area. Support your answer with reasons.
3. Describe corrective measures for some common spinal postural deformities.
4. Write down the procedure and contraindications of Matsyasna in detail.
5. Discuss different types of tournaments.
6. Explain the benefits of Women's participation in Sports.

PSYCHOLOGY

Date of submission: 25 June, 2024

1. Writing a case profile for a Class 12 psychology project involves conducting a psychological assessment of an individual and summarizing your findings and recommendations. This project can help you apply your theoretical knowledge in a practical way and gain insights into psychological assessment. Here is a step-by-step guide on how to write a case profile for your psychology project:

Step 1: Select an Individual

Choose an individual to assess (with their consent and permission if needed, such as from parents or guardians for minors).

The individual can be a peer, family member, or acquaintance.

Step 2: Plan the Assessment

Determine the Scope: Decide what aspects of the individual's behavior, thoughts, or feelings you want to examine.

Choose Assessment Tools: Plan to use methods such as interviews, questionnaires, or behavioral observations.

Step 3: Conduct the Assessment

Collect Background Information: Gather data on the individual's background, including personal history, education, social relationships, and any medical or psychological history.

Administer Assessment Tools: Conduct interviews or use questionnaires to gather information on the individual's current situation and psychological functioning.

Observe Behavior: Take notes on the individual's behavior, emotions, and interactions during the assessment.

Step 4: Analyze the Data

Summarize Findings: Compile the data from your interviews, questionnaires, and observations.

Identify Patterns: Look for patterns in the data that provide insights into the individual's psychological functioning.

Consider Possible Diagnoses: Based on your findings, consider any possible diagnoses or interpretations.

Step 5: Write the Case Profile

Introduction: Provide a brief introduction to the case, including the individual's basic information (use a pseudonym for privacy) and the purpose of the assessment.

Presenting Issues: Describe the main issues or problems the individual is facing.

Background Information: Summarize the individual's background, including personal, educational, and social history.

Assessment Methods: Describe the assessment tools and methods used.

Observations: Share your observations of the individual's behavior, emotions, and interactions.

Assessment Results: Present the results of your assessment, including any patterns or insights.

Possible Diagnosis: Provide your interpretation of the data, including any possible diagnosis.
Recommendations: Offer suggestions for interventions, strategies, or support based on your findings.
Conclusion: Summarize the key points and your overall interpretation of the case.
Reflection: Reflect on your experience and what you learned from conducting the assessment.
Step 6: Maintain Ethical Standards
Confidentiality: Use pseudonyms and protect the individual's identity throughout the case profile.
Informed Consent: Ensure you have consent from the individual and, if applicable, their parents or guardians.
Step 7: Review and Finalize
Proofread: Check your case profile for spelling, grammar, and clarity.
Organize: Ensure the information is presented logically and coherently.
Revise: Make any necessary changes to improve the case profile.
By following these steps, you can create a comprehensive and ethical case profile for your Class 12 psychology project. This experience will help you develop critical thinking and assessment skills while applying psychological concepts to real-life situations.

2. Introductory content for practical to be written in the practical file along with practical 1 and 2.