Atomic Energy Central School No. 4 Rawatbhata

Class 12 - English Core

Maximum Marks: 40 **Unit Test-I (2019-20)** **Time: 1 hour 30 minutes**

Section A

1. Read the passage and on the basis of your understanding of the passage answer the questions given below: 12

1. From the moment a baby first opens its eyes, it is learning. Sight and sensation spark off a learning process which will determine in large measure the sort of person it will become. Language stands head and shoulders over all other tools as an instrument of learning. It is language that gives man his lead in intelligence over all other creatures. Only man can stand off and contemplate his own situation. No other creature can assemble a list of ideas, consider them, draw conclusions and then explain his reasoning. Man can do all this because he possesses language. And if thought depends on language, clearly the quality of an individual's thought will descend on that person's language-rudimentary or sophisticated, precise or approximate, stereotyped or original.

2. Very young babies are soothed by human voice comforting words close to them. This essentially emotional response provides early evidence that feeling is an important component of language learning. Children learn to use language in interaction with other human beings, and this learning precedes best against a background of affectionate feedback from the person who is closest to them. This is seen to perfection in the interaction between parent and baby : eyes locked together, the adult almost physically drawing 'verbal' response from the baby, both engulfed by that unique experience of intimate and joyful 'connecting' which sets the pattern of relationships between two people.

3. Thus, long before they can speak, children are involved in a two way process of communication which is steadily building a foundation on which their later use of language will be based. Constantly surrounded by language, they are unconsciously building structures in their minds into which their speech and reading will later fit-grammatical constructions, tense sequences and so on. The forms of these structures will depend on the amount and complexity of speech they hear. The fortunate children are those who listen to articulate adults expressing ideas and defending opinions. They will know, long before they can contribute themselves that relationships are forged through this process of speaking and listening; that warmth and humour have a place in the process, as have all other human emotions.

4. Using books is the most important means of ensuring a child's adequate language development. None of us can endlessly initiate and maintain speech with very small children; we run out of ideas, or just get plain sick of it. Their lives are limited and the experience just isn't there to provide the raw material for constant verbal interaction, without inevitable boredom on the child's part and desperation on the adult's.

5. Parents and children who share books share the same frame reference. Incidents in everyday life constantly remind one or the other of a situation, a character, an action, from a jointly enjoyed book, with all the generation of warmth and wellbeing that is attendant upon such sharing. All too often, there is a breakdown of communication between parents and children when the problems of adolescence arise. In most cases this is the most acute when the give and take of shared opinion and ideas has not been constantly practised throughout childhood. Books can play a major part in the establishment of this verbal give and take, because they are rooted in language.

6. Young children's understanding greatly outruns their capacity for expression as their speech strains to encompass their awareness, to represent reality as they see it. Shades of meaning which may be quite unavailable to the child of limited verbal experience are startling talkedto; toddler. All the wonderful modifying words-later, nearly, tomorrow, almost, wait, half, lend-begin to steer the child away from the simple extremes of "yes" and 'no' towards the adult word of compromise; from the child's black and white world to the subtle shades and tints of the real world. The range of imaginative experience opened up by books expands the inevitably limited horizons of children's surroundings and allows them to make joyful, intrigued, awe-struck acquaintance with countless people, animals, objects and ideas in their first years of life, to their incalculable advantage.

7. Books also help children to see things from other points of view besides their own as they unconsciously put themselves into other people's places – 'if that could happen to him, it could happen to me.' This imaginative self-awareness brings apprehensions and fears as well as heightened hopes and joys.

8. Our society is increasingly dominated by visual images and crude noise. Television selects what we look at advertisements are designed so that non-readers will get the points; sound is often loud, strident and undifferentiated. In books children can experience language which is subtle, resourceful, exhilarating and harmonious; languages which provide the human ear (and understanding) with a pointed and precise pleasure, the searing illuminating impact of good and true words. All this is in danger of being lost against the blaring and glaring background of the modern child's world (Adapted from Babies Need Books by Dorothy Butler).

QUESTIONS

1.1 Answer each of the questions given below by choosing the most appropriate option: (1×5=5)

i. Of all other creatures man leads in intelligence due to

a. Ideas, b. Conclusions c. Reasoning d. Language

ii. For Very young babies an important component of language learning.

a. Feelings b. Interaction c. Experience d. Feedback

iii. Books can help in child's adequate language development only when :

a. Children are given a book to read on their own. b. Parents and children share book reading.

c. Books have colourful visual image d. Books are new and expensive.

iv. Which of the following statement is NOT correct:

a. Modern child's world is full of visual images and crude noise

b. Advertisements are so designed that even a non-reader can understand.

c. In books children can experience language which is subtle, resourceful and harmonious.

d. Television is good for proper development of child's language.

v. Very young babies are soothed by.....

a. By the sound of toys b. By human voice comforting words close to them.

c. By the sound of birds d. By the sound of animals

1.2 Answer the following questions briefly: (1×4=4)

i. List three things that a baby can do from the moment it is born that enable it to learn about the world around it.

ii. How does the range of language affect a person's thinking?

iii. What advantages do children who listen to articulate adults enjoy in comparison with the others?

iv. Why according to the writer is talking alone an inadequate base for language development?

1.4 Pick out the words/phrases from the passage which are similar in meaning to the following: (1×3=3)

i. Think about (Para 1) ii. Pronounce distinctly (Para 3) iii. Give and take (Para 6)

Section B

2. You are Sports Secretary of ABC School, Agra. Write a notice in not more than 50 words for the school notice board, asking the students interested in hockey to give their names for selection for your school hockey team. 4

OR

You are a member of the SPCA. Draft a poster in not more than 50 words to create awareness on the need to prevent cruelty to animals. You are Suhas/Suhasini.

3. You are Keshav/Karuna, Sports Teacher of Shyamala Memorial Hall, Trivandrum. After watching the recent sports events in which quite a few players sustained injuries, you decide to address your school students on the importance of maintaining physical fitness along with a sound mind. Write the speech in 150-200 words. 10

OR

Friendship and happiness are closely connected. We all need friends to share our joys and sorrows. A true friend stands by us in difficult times. He inspires and motivates us and loves us selflessly. Write an article in 125-150 words on 'The value of friends'. You are Prityush/ Prityusha.

Section C

4. Driving from my parent's home 4
to Cochin last Friday morning,
I saw my mother, beside me,
doze, open mouthed, her face
ashen like that of a corpse
andrealised with pain

a. Why was the mother dozing? b. Why was her mouth open?

c. What is ashen like? d. Which pain she realized?

5. "But the thing that surprised me the most was to see..." What surprised Franz most in the class? 2

OR

How does the map of the wall tempt the slum children?

6. How is Mukesh different from the other bangle makers of Firozabad? 2

OR

How did the tiger king celebrate his victory over the killing of the hundredth tiger?

7. How did Hamel describe the role played by mother tongue specially at the times of enslavement of a country ? 6

OR

'Lost Spring' explains the grinding poverty and traditions that condemn thousands of people to a life of abject poverty. Do you agree? Why/why not?

Atomic Energy Central School No. 4 Rawatbhata

Class 12 - Physics

MM: 35 | Unit Test- I (2019-20) | Time: 1:30 hrs

Note: All questions are compulsory. There is no overall choice, however in some of thequestions internal choices have been given.

Section A

1. A hollow spherical conductor of radius 2m carries a charge of 500 μ C. Then electric field strength at its surface is **1**

   a) $1.125 \times 10^6 N/C$ b) Zero

   c) $4.5 \times 10^6 N/C$ d) $2.25 \times 10^6 N/C$

2. Three capacitors connected in series have an effective capacitance of 2 μF. If one of the capacitors is removed, the effective capacitance becomes 3 μF. The capacitance of the capacitor that is removed is **1**

   a) $\frac{3}{2}\mu F$ b) $\frac{2}{3}\mu F$

   c) 6 μF d) 1 μF

3. When a capacitor is connected to a battery **1**

   a) a current flows in the circuit for sometime and then decreases to zero

   b) an alternating current flows in the circuit.

   c) the current keeps on increasing, reaching a maximum value

   d) no current flows in the circuit at all

4. A piece of copper and another of germanium are cooled from room temperature to 80K. The resistance of **1**

   a) each of them increases

   b) each of them decreases

   c) copper increases and that of germanium decreases

   d) copper decreases and that of germanium increases

5. In a Wheatstone's bridge, P = 9 ohms, Q = 11 ohms, R = 4 ohms and S = 6 ohms. How much resistance must be put in parallel to the resistance S to balance the wheatstone bridge? **1**

   a) 24 ohms

   b) 18.7 ohms

   c) 26.4 ohms

   d) $\left(\frac{44}{9}\right)$ ohms

6. Point out whether the following statement is right or wrong. **1**
   Statement - The mutual forces between two charges does not get affected by the presence of other charges.

7. In which orientation, a dipole placed in a uniform electric field is in (i) stable equilibrium (ii) unstable equilibrium? **1**

8. The potential due to a dipole at any point on its axial line is zero. Correct or wrong? **1**

   OR

   What is the work done in moving a test charge q through a distance of 1 cm along the equatorials axis of an electric dipole?

9. How does the random motion of free electrons in a conductor get affected when a potential difference is applied across its ends? **1**

10. Define the term electrical conductivity of a metallic wire. Write its SI unit. **1**

Section B

11. Define electric flux. Write its SI unit. A charge q is enclosed by a spherical surface of radius R. Find the electric flux. **2**

12. Net capacitance of three identical capacitors in series is 1 μF. What will be their net capacitance, if connected in parallel? **2**
    Find the ratio of energy stored in these two configurations, if they are both connected to the same source.

13. Deduce the expression for the electrostatic energy stored in a capacitor of capacitance C and having charge Q. **2**
    How will the
    i. energy stored and
    ii. the electric field inside the capacitor be affected when it is completely filled with a dielectric material of dielectric constant K?

14. Is Ohm's law universally applicable for all conducting elements? If not, give examples of elements which do not obey Ohm's law. **2**

OR

Use Kirchhoff's rules to obtain balance conditions for the balance conditions in a Wheatstone bridge.

Section C

15. i. Obtain the expression for the torque τ experienced by an electric dipole of dipole moment p in a uniform electric field, E. **3**
    ii. What will happen, if the field were not uniform?

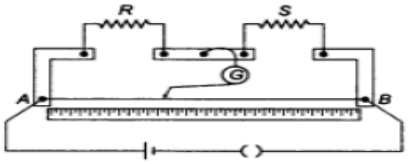
16. Two charges $5 \times 10^{-8} C$ and $-3 \times 10^{-8} C$ are located 16 cm apart. At what points on the line joining the two charges in the electric potential zero? Take the potential at infinity to be zero. **3**

OR

A parallel plat capacitor, each with plate area A and separation d, is charged to a potential difference V. The battery used to charge it is then disconnected. A dielectric slab of thickness d and dielectric constant k is now placed between the plates. What change, if any, will take place in
i. charge on the plates.
ii. electric field intensity between the plates,
iii. capacitance of the capacitor.

17. Prove that the current density of a metallic conductor is directly proportional to the drift speed of electrons. **3**

18. In a meter bridge, the null point is found at a distance of 60 cm from A. If a resistance of 5Ω is connected in series with S, then null point occurs at 50.0 cm from A. Determine the values of R and S. **3**



Section D

19. i. Use Gauss theorem to find the electric field due to a uniformly charged infinitely large plane thin sheet with surface charge density σ. **5**
    ii. An infinitely large thin plane sheet has a uniform surface charge density $+\sigma$. Obtain the expression for the amount of work done in bringing a point charge q from infinity to a point, distance r, in front of the charged plane sheet.

OR

Define the term electric field intensity. Write its SI unit. Derive an expression for the electric field intensity at a point on the axis of an electric dipole.

ATOMIC ENERGY CENTRAL SCHOOL NO. 4 RAWATBHATA

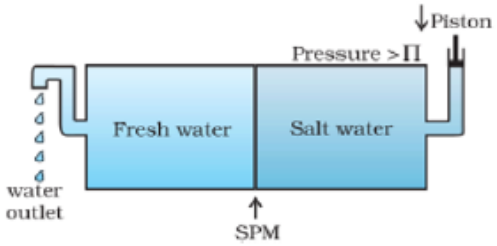
Unit Test- I (2019-20)

Time: 1: 30 hrs **Class: XII, Chemistry** **Max. Marks: 35**

Note: All questions are compulsory. There is no overall choice, however in some of the questions internal choice has been provided

Section A

1. The following diagram shows **1**



a) None of these
b) Berkeley and Hartley's apparatus
c) Schematic set up of a desalination plant
d) Diffusion process

2. When blood cells are placed in pure water, blood cells **1**

a) Become white in colour
b) Shrinks
c) Diffuses in water
d) Swells up

3. Conductivity of 0.00241 M acetic acid is 7.896×10^{-5} S cm^{-1}. If $\Lambda^0 m$ for acetic acid is 390.5 S $cm^2 mol^{-1}$, what is its dissociation constant? **1**

a) 1.75×10^{-5}
b) 2.05×10^{-5}
c) 1.95×10^{-5}
d) 1.85×10^{-5}

4. Which among the following is an example of pseudo first order reaction? **1**

a) Decomposition of nitrogen pentoxide
b) Acid catalysed hydrolysis of ethyl acetate
c) Dehydration of oxalic acid
d) Decomposition of hydrogen peroxide

5. Which of the following ions have minimum value of flocculating power? **1**

a) PO_4^{3-}
b) SO_4^{2-}
c) SO_3^{2-}
d) NO_3^-

6. What are isotonic solutions? **1**
7. What do you understand by the term conductivity? **1**
8. Suggest two materials other than hydrogen that can be used as fuels in fuel cells. **1**

OR

Write the cell formulation and calculate the standard cell potential of the galvanic cell in which the following reaction takes place:

$Fe^{2+}(aq) + Ag^{+}(aq) \rightarrow Fe^{3+}(aq) + Ag(s)$

Calculate $\Delta_r G^0$ for the above reaction

[Given: $E^0_{Ag^+/Ag} = +0.80V$

$E^0_{Fe^{3+}/Fe} = +0.77V$

[1 F = 96500 C mol^{-1}]

9. The rate of reaction $X \rightarrow Y$ becomes 8 times when the concentration of the reactant X is doubled. Write the rate law of the reaction. **1**

10. The decomposition reaction of ammonia gas on platinum surface has a rate constant k = 2.5 $\times 10^{-4}$ mol L^{-1} s^{-1}. What is the order of the reaction? **1**

OR

Express the relation between the half life period of a reaction and initial concentration of the reaction of second order.

Section B

11. Calculate the volume of water which could be added to 20 ml of 0.65 m HCl to dilute the solution to 0.2 m? **2**

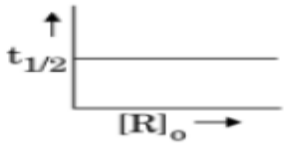
12. Three electrolytic cells A, B, C containing solutions of $ZnSO_4$, $AgNO_3$ and $CuSO_4$ respectively are connected in series. A steady current of 1.5 amperes was passed through them until 1.45 g of silver deposited at the cathode of cell B. How long did the current flow? What mass of copper and zinc were deposited? **2**

OR

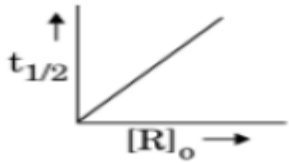
Define corrosion. What is the chemical formula of rust?

13. Define order of reaction. Predict the order of reaction in the given graphs: **2**

a.



b.



where [R]o is the initial concentration of reactant and t1/2 is half-life.

14. According to Arrhenius, rate of reaction increases with increase in temperature. Give reason. **2**

15. What are fuel cells? Why we need these types of fuel cells? Explain with an example. **3**

16. Explain Kohlrausch's law of independent migration of ions. Mention one application of Kohlrausch's law. **3**

17. The half life for radioactive decay of 14C is 5730 years. An archaeological artifact containing wood had only 80% of the 14C found in a living tree. Estimate the age of the sample. **3**

OR

A first order decomposition reaction takes 40 minutes for 30% decomposition, calculate $t_{1/2}$ value for it.

18. What are emulsions? What are their different types? Give example of each type. **3**

19. What is meant by positive and negative deviations from Raoult's law and how is the sign of H sol related to positive and negative deviations from Raoult's law?**5**

OR

How many mL of 0.1 M HCl are required to react completely with 1g mixture of and containing equimolar amounts of both?

Atomic Energy Central School No. 4 Rawatbhata

Unit Test-I (2019-20)

Class 12 - Mathematics

Unit Test-1 (2019-20)

Maximum Marks: 40 **Time Allowed: 1 hour and 30 minutes**

General Instructions:

Note: All questions are compulsory.

Section A

1. Let $f : N \to Y$ be a function defined as f (x) = 4x + 3, where, $Y = \{y \in N : y = 4x + 3\}$ for some $x \in N$. Then f is **1**

   a) many-one
   b) Non Invertible
   c) Invertible
   d) even

2. Let A = {1, 2, 3} and consider the relation R = {1, 1), (2, 2), (3, 3), (1, 2), (2, 3), (1,3)}. Then R is **1**

   a) neither symmetric, nor transitive
   b) symmetric and transitive
   c) reflexive but not symmetric
   d) reflexive but not transitive

3. If xy + yz +zx = 1, then value of $\tan^{-1}x + \tan^{-1}y + \tan^{-1}z$ is **1**

   a) none of these
   b) π
   c) 0
   d) $\frac{\pi}{2}$

4. $\cos^{-1}\left(\cos\left(-\frac{\pi}{3}\right)\right)$ is equal to **1**

   a) $\frac{2\pi}{3}$
   b) $\frac{-\pi}{3}$
   c) None of these
   d) $\frac{\pi}{3}$

5. The order of the single matrix obtained from **1**

   $$\begin{bmatrix} 1 & -1 \\ 0 & 2 \\ 2 & 3 \end{bmatrix}_{3\times 2} \left\{ \begin{bmatrix} -1 & 0 & 2 \\ 2 & 0 & 1 \end{bmatrix}_{2\times 3} - \begin{bmatrix} 0 & 1 & 23 \\ 1 & 0 & 21 \end{bmatrix}_{2\times 3} \right\} \text{ is}$$

   a) 2 X 3
   b) 3×3
   c) 3 X 2
   d) 2 X 2

6. If A and B are square matrices of the same order, then $(A + B)^2 = A^2 + 2AB + B^2$ implies **1**

a) none of these b) AB = BA

c) AB + BA = O d) AB = O

7. The value of the determinant of a skew symmetric matrix of even order is **1**

a) A non zero perfect square b) None of these

c) 0 d) Negative

8. Write the adjoint of the following matrix. **1**

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

OR

Without expanding, prove that

$\begin{vmatrix} a & a^2 & bc \\ b & b^2 & ca \\ c & c^2 & ab \end{vmatrix} = \begin{vmatrix} 1 & a^2 & a^3 \\ 1 & b^2 & b^3 \\ 1 & c^2 & c^3 \end{vmatrix}$

9. Write the principal value of $\tan^{-1}(\sqrt{3}) - \cot^{-1}(-\sqrt{3})$. **1**

OR

Find the value of the following. $\cot\left[\frac{\pi}{2} - 2\cot^{-1}(\sqrt{3})\right]$

10. $A = \begin{bmatrix} 2 & 4 \\ 5 & 6 \end{bmatrix}$, Prove that A + A' is a symmetric matrix **1**

OR

Write 2×2 matrix which is both symmetric and skew-symmetric.

Section B

11. State whether the function is one - one, onto or bijective f: R $\rightarrow$ R defined by **2**

f(x) = 1+ x^2

OR

Let A = R – {3} and B = R- {1}. Consider the function of f: A $\rightarrow$ B defined by $f(x) = \frac{x-2}{x-3}$ . .Is f one – one and onto.

12. $\cos^{-1}\left(\frac{-1}{\sqrt{2}}\right)$ **2**

13. Using elementary transformation, find the inverse of the matrix: **2**

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

Section C

14. Solve for x,$2\tan^{-1}(\cos x) = \tan^{-1}[2cosec(x)]$. **4**

15. If $F(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$, show that F(x)F(y) = F(x + y). **4**

OR

Let $A = \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}$, show that $(aI + bA)^n = a^n I + na^{n-1} bA$ where I is the identity matrix of order 2 and $n \in N$.

16. Prove that $\begin{vmatrix} x+y+2z & x & y \\ z & y+z+2x & y \\ z & x & z+x+2y \end{vmatrix} = 2(x+y+z)^3$ **4**

Section D

17. Consider $f : R_+ \to [-5, \infty]$ given by $f(x) = 9x^2 + 6x - 5$. Show that f is invertible with $f^{-1}(y) = \left(\frac{(\sqrt{y-6}-1)}{3} \right)$ **6**

18. prove that: $\begin{vmatrix} \alpha & \alpha^2 & \beta+\gamma \\ \beta & \beta^2 & \gamma+\alpha \\ \gamma & \gamma^2 & \alpha+\beta \end{vmatrix} = (\beta-\gamma)(\gamma-\alpha)(\alpha-\beta)(\alpha+\beta+\gamma)$ **6**

OR

If A = $\begin{bmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{bmatrix}$ find A^{-1}, using A^{-1} solve the system of equations

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

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

$x + y - 2z = -3$

Atomic Energy Central School No. 4 Rawatbhata

Class 12 - Biology

Unit Test-I (2019-20)

Maximum Marks: 35 **Time Allowed: 1 hour and 30 minutes**

General Instructions:

Note: All questions are compulsory. There is no overall choice, hoiwever internal choice has been given in some of the questions.

Section A

1. What are pre-fertilization events of sexual reproduction? **1**
2. Define Parthenogenesis. Given two examples. **1**
3. Write the name of layer of anther wall occurs below middle layers, also mention its function. **1**
4. Name the hormones involved in regulation of spermatogenesis. **1**
5. Amniocentesis for sex determination is banned in our country. Is this ban necessary? Comment. **1**

Section B

6. In the following figure of a fruit, label the part which is protective in function and that which is responsible for producing new plants. **2**

7. If the chromosome number of a plant species is 20, what would be the chromosome number in its: **2**
   (i) Pollen grains
   (ii) Endosperm cells?
8. How does the study of different parts of a flower help in identifying wind as its pollinating agent? **2**
9. What is parturition? Which hormones are involved in induction of parturition? **2**
10. Write the full form of the following: **2**
    (i) MMR

(ii) IVF

(iii) GIFT

(iv) ART

Section C

11. Differentiate between gametogenesis and embryogenesis. **3**

12. How does the megaspore mother cell develop into 7-celled, 8 nucleate embryo sac in an angiosperm? Draw a labelled diagram of a mature embryo sac. **3**

13. Write the function of each of the following :- **3**

    (a) Middle piece in human sperm

    (b) Luteinizing hormone in human males.

    (c) Oxytocin

14. Draw a labelled diagram of the female reproductive system. **3**

15. Describe sexually transmitted diseases. Name some important STDs and their causative agents. **3**

OR

Fed up of a large family, a couple wanted to adopt a terminal method of contraception. Describe the process conducted by the doctor in either of the cases (male / female partner).

Section D

16. Differentiate between: **5**

    a. hypocotyol and epicotyl

    b. coleoptile and coleorrhiza

    c. integument and testa

    d. perisperm and pericarp

OR

Draw a labelled diagram of a section through ovary.

Atomic Energy Central School No-4, Rawatbhata

Unit Test – 1 (2019-20)

Class: XII, Computer Science

Time Allowed: 1 Hour 30 Minutes | Maximum Marks: 35

1. a) Write a function void REV () in C++, which accepts an integer array and its size as parameters and rearranges the array in reverse, without help of another array. If an array of nine elements initially contains the elements as 4, 2, 5, 1, 6, 7, 8, 12, 10
then the function should rearrange the array as 10, 12, 8, 7, 6, 1, 5, 2, 4 [4]

OR

Write a function in C++ which accepts an integer array and its size as an arguments and prints the output (using nested loops) in following format :

Example : if the array is having
1 2 4 5 9
Then the output should be
1
2 2
4 4 4 4
5 5 5 5 5
9 9 9 9 9 9 9 9 9

b) Write a function in C++ which accepts an integer array and its size as arguments and replaces elements having even values with its half and elements having odd values with twice its value. [2]
Example : if an array of five elements initially contains the elements as
3, 4, 5, 16, 9
then the function should rearrange the content of the array as: 6, 2, 10, 8, 18

c) Write a function in C++ which accepts a 2-D array of integers as argument and displays the upper triangle elements only. [3]

Example, if the array contents are:

3 5 4 3
2 6 9 2
8 7 3 6
1 5 4 9

Then output of function should be:

3 5 4 3
0 6 9 2
0 0 3 6
0 0 0 9

OR

Write a function in C++ which accepts a 2-D array of integers as argument and displays the sum of all odd elements in each row.
Example, if the array content is
3 5 4 2
7 6 9 1
2 1 8 3
Output through the function should be :
Sum of Row 1 : 8
Sum of Row 2 : 17
Sum of Row 3 : 4

2. a) Write a function Player () in C++ to display the content of linear array Queue after inserting a new element. Assume the Queue has been already stored with a set of long integer numbers. Take suitable arguments for the function. [4]

b) Write a function Dels() in C++ to pop the top content from a array stack, assume the stack has been stored with a set of float numbers. Display the content of stack after popping. [3]

3. a) State the conditions for full linear circular queue. [1]

b) Write an example to initialize a 2-d array with 3 rows and 4 columns of short integer type. [1]

c) Write the formula to find the address of a[i,j]th element from a 2-d array in row wise method. [1]

4. (i) evaluate the following *postfix notation* of expression : [2]

3, 4, 5, 6, +, *, 22, /, 4, +, -

(ii) Convert the following infix expression into postfix. show the stack status after execution of each operation: [3]

TRUE OR FALSE AND NOT FALSE OR FALSE

(iii) Convert the following Infix Expression into Postfix Expression, using Stack Implementation method. (A*B-(M+N)+(T/G)*H+R) [2]

5. a) Find the output for the following program: [2]

```
#include<iostream.h>
#include<ctype.h>
void Encript ( char T[])
{for( int i = 0 ; T[i] != ' \0' ; i += 2)
    if( T[i] = = 'A' || T[i] = = 'E' )
     T[i] = '#' ;
    else if (islower (T[i] ))
          T[i] = toupper(T[i]);
       else
            T[i] = '@';
}
void main()
{ char text [] = "SaVE EArthH";
  encrypt(text);
  cout<<text<<endl;
}
```

OR

```
void change(int b[])
      {   for(int i=0 ; i<=4 ; i++)
          { if(i%2 = = 0)
              b[i] = b[i]+1;
            else
              b[i] = b[i]+2;
           }
       }
      void main()
       { int a[5] = {4, 5, 6, 7, 8};
          change (a);
          for(int i =4 ;  i>=0 ; i--)
              cout<<a[i]<<"\t";
          cout<<"\n";
       }
```

6. a) An array A [10][20] is stored in the memory with each element occupying 2 bytes of storage. If the Base address of array in the memory is 800, determine the location of A[9][10], when the array is stored in: (i) Row Major order (ii) Column major order [4]

b) A two dimensional array A [-1...5] [-4…5] having integers (long int), is stored in the memory along the column, find out the *memory location* for A [2][2], if an element A [0][0] is stored at the memory location 5000. [3]

परमाणु ऊर्जा केंद्रीय विद्यालय -4 रावतभाता

प्रथम इकाई परीक्षा -2019-20

कक्षा – 12 वीं विषय –हिन्दी समय – 1 घंटा 40मि ॰ पूर्णाङ्क –40

खण्ड –क

प्रश्न -1 निम्नलिखित गदयांश को पढ़कर पूछे गए प्रश्नो के उत्तर लिखिए -

मनुष्य अपने नैतिक गुणों से ही जीवधारियों में श्रेष्ठतम माना जाता है I हर व्यक्ति जीवन –पर्यंत सुख की खोज में रहता है I तन के सुख मनुष्य और पशु –पक्षी सभी को समान रूप से चाहिए ,किन्तु मन और आत्मा के सुख केवल मनुष्यों के लिए है I मन के जितने भी सुख हैं ,उनमें सबसे बड़ा है परोपकार का सुख I किसी अंधे को सड़क पार कराने, किसी भूखे को रोटी खिलाने, किसी प्यासे की प्यास बुझाने,

किसी निराश –हताश को आशान्वित करने अथवा किसी लाचार, गरीब और जरूरतमन्द के काम आने मे जो सुख मिलता है, उसकी किसी भी सुख या आनंद से तुलना नहीं की जा सकती अपने लिए तो दुनिया मे सभी प्राणी जीते है, पर जब हम अपने जीवन को दूसरों के लिए अर्पित कर देते तो हमारा जीवन धन्य हो जाता है I

(क) अपनी किस विशेषता के कारण मनुष्य सभी प्राणियों में सर्वश्रेष्ठ माना जाता है ? 2

(ख) मनुष्य और पशु के सुखों में क्या भिन्नता है ? 2

(ग) जीवन की धन्यता कब अनुभव होती है ? 2

प्रश्न -2 निम्नलिखित काव्यांश को पढ़ कर पूछे गए प्रश्नों के उत्तर दीजिए I 4

जान पड़ता नेत्र देख बड़े –बड़े
हीरकों मे गोल नीलम हैं जड़े I
स्वर्ग का यह सुमन धरती पर खिला
नाम इसका उचित ही है उर्मिला

(क) इन पंक्तियों मे कवि ने किसके सौंदर्य का वर्णन किया है ?

(ख) कवि को नायिका के नेत्र कैसे जान पड़ते हैं?

(ग) कवि ने नायिका को स्वर्ग का सुमन क्यों कहा है ?

(घ) इन पंक्तियों मे किस अलंकार का प्रयोग किया गया है ?

खण्ड -ख

प्र 3 निम्नलिखित मे से किसी एक का संक्षेप मे निबंध लिखिए - 5

(क) कठिन है मित्र की पहचान

(ख) अन्नदाता किसान की समस्याएं

(ग) प्लास्टिक : एक पर्यावरण संकट

प्रशन-4किसी समाचार पत्र के संपादक को पत्र लिखकर सीमा पर देश की रक्षा करते हुए अपना बलिदान देने वाले भारतीय सेना के जवानो के शौर्य एवं वीरता को रेखांकित कीजिए I 5

अथवा

मानव संसाधन विभाग के महाप्रबंधक को मार्केटिंग एक्जीक्यूटिव पद के लिए एक आवेदन पत्र लिखिए I

प्रश्न -5 निम्नलिखित मे से किंही दो प्रश्नो के उत्तर लिखिए I 2

(क) संचार मध्याम से आप क्या समझते है ?

(ख) संचार के प्रमुख प्रकारो का उल्लेख कीजिए I

(ग) लाइव से क्या अभिप्राय है ?

खण्ड –ग

प्रश्न 6 - निम्नलिखित मे से किन्हीं दो प्रश्नों के उत्तर लिखिए I 2x 2=4

(क)जहां पर दाना रहते हैं ,वहीं नादान भी रहते हैं –कवि ने ऐसा क्यों कहा होगा ?

(ख) बच्चे किस बात की आशा में नीड़ों से झांक रहे होंगे ?

(ग) सबसे तेज बौछारें गयी ,भादो गया के बाद में प्रकृति में जो परिवर्तन कवि ने दिखाया है ,उसका वर्णन अपने शब्दों में करें I

प्र 7 निम्नलिखित में से किसी एक गदयांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए I2x 2=4सेवक धर्म में हनुमान जी से स्पर्धा करने वाली भक्तिन किसी अंजना की पुत्री न होकर एक अनामधन्या गोपालिका की कन्या है –नाम है लछमिन अर्थात लक्ष्मी I पर जैसे मेरे नाम की विशालता मेरे लिए दुर्वह है ,वैसे ही लक्ष्मी की समृद्धि भक्तिन के कपाल की कुंचित रेखाओं में नहीं बंध सकी I वैसे तो जीवन में प्राय: सभी को अपने –अपने नाम का विरोधाभास लेकर जीना पड़ता है : पर भक्तिन बहुत समझदार है ,क्योकि वह अपना समृद्धि सूचक नाम किसी को बताती नहीं I

(क) भक्तिन के संदर्भ में हनुमान जी का उल्लेख क्यों हुआ है ?

(ख) भक्तिन के नाम एवं उसके जीवन में क्या विरोधाभास था ?

अथवा

बाजार में एक जादू है I वह जादू आँख की राह काम करता है I वह रूप का जादू है जैसे चुंबक का जादू लोहे पर ही चलता है ,वैसे ही इस जादू की भी मर्यादा है I जेब भारी हो और मन खाली हो ,ऐसी हालत में जादू का असर खूब होता है I जेब खाली पर मन भरा न हो, तो भी जादू चल जाएगा I मन खाली है तो बाजार की अनेकानेक चीजों का निमंत्रण उस पर पहुंच जाएगा I कहीं उस वक्त जेब भरी हो तब तो फिर वह मन किसकी मानने वाला है I मालूम होता है यह भी लूँ I सभी सामान जरूरी और आराम को बढ़ाने वाला होता है I

(क) बाजार का जादू 'आँख की राह 'किस प्रकार काम करता है ?

(ख) क्या आप भी'बाजार के जादू' मे फंसे हैं? अपना अनुभव लिखिए जब आप न चाहने पर भी सामान खरीद लेते है ?

प्रश्न – 8 निम्नलिखित प्रश्नो के उत्तर लिखिए I 3+3=6

(क) भक्तिन अपना वास्तविक नाम लोगो से क्यो छुपाती थी ? भक्तिन नाम किसने और क्योदिया होगा ?

(ख) बाजार का जादू चढ़ने और उतरने पर मनुष्य पर क्या क्या असर पड़ता है ?

प्रसन- 9 निम्नलिखित मे से किसी एक प्रश्न का उत्तर लिखिए I 4

(क) सिल्वर वैडिग कहानी के आधार पर बताइए कि यशोधर बाबू समय के अनुसार कयों नहीं ढल सके ?

(ख) पाठ मे' जो हुआ होगा 'वाक्य की आप कितनी अर्थ छवियां खोज सकते हैं ?

Atomic Energy Central School No. 4 Rawatbhata

Class 12 - Physical Education

Maximum Marks: 35 Unit Test - I (2019-20) Time Allowed: 1 hour 30 minutes

General Instructions:

All questions are compulsory. There is no overall choice, however internal choices have been given in some of the questions.

Section A

1. What is a tournament? 1
2. Write down the two objectives of planning? 1
3. Define planning. 1
4. In which conditions knock out tournaments are better than Round Robin? 1
5. What is bye? 1

OR

Name some specific sports programmes.

6. Enlist the Fat Soluble Vitamins? 1
7. What are Carbohydrates? 1
8. What is sports nutrition? 1
9. List the goals of nutrition during competition 1

OR

What is protein? What are its types and sources?

10. What are the contraindications of vajrasana? 1

Section B

11. Distinguish between intramural and extramural programmes. 3
12. Draw a league fixture of 5 teams in cyclic method. 3
13. Discuss the precautions for taking food supplements. 3
14. Write in brief about important minerals requirement. 3

OR

Discuss any three pitfalls of dieting?

15. Elucidate the benefits and contraindications of Sukhasana. 3

Section C

16. Draw a knock out fixture of 21 teams mentioning all the steps involved. 5

OR

Enlist and explain any two specific sports program.

17. What do you mean by micro nutrients? Explain in brief about mineral as micro nutrients in detail. 5
