SAVITRI DEVI DAV PUBLIC SCHOOL, JAMTARA

DEEPAWALI & CHHAT PUJA HOME-WORK & PROJECT WORK-(2023-24)

CLASS-XI/A (SCIENCE)

XI (ENGLISH)

A1 Artificial intelligence being the latest invention of science will provide new avenues of automation in every aspect of living today as well as employment prospects.

Write an article in about 150 words in support of the above statement.

A 2. Our country has been prone to natural disasters viz. Cyclones, floods, earthquakes etc.which claim great loss of human lives, properties & other invaluable assets every year. In most incidences govt. authorities prove futile managing disasters time to time. Write a letter to the editor of an English Daily sensitizing govt.authorities& public giving suggestions to build strategies for disaster management. (200 words)

A3. After experiencing the celebration of Diwali &Chhathwith your family, prepare a write up outlining the importance of festivals in common lives. (150 words)

A 4. Suppose you are a B.Tech. (l.T.) from a reputed college of engineering. Recently you came across an advertisement in The Times of India for immediate appointment of Computer Personnels in InfosislndiaLtd. Sect. Vl, Noida (U.P.). Draft a letter to the C.E.O. applying for the post furnishingyour resume with other requisite details.

A5. Apply appropriate tense to the verbs bracketed:

a) If you had helped me last year, l .....(get) the job.
b) Eversince l came here, it.....(rain).
c) What .....(do) when l knocked at the door ?
d) The water in the pond .....(freeze) last night.
e) Unless you mend your ways, you.....(not succeed).
f) The workers .....(complete) the work by next week.
g) The match.....(start) as soon as the referee arrives.

A 6. Supply correct modals :

a) He .....qualify for the job, if he tried.
b) The news ..... be true.
c) Drive carefully,lest you..... damage the car.
d) He .....rather resign from the post than to submit to injustice.
e) .....you do me a favour ?

A7. On the basis of your understanding the ch- A portrait of a lady, prepare a speech to be delivered in your school morning assembly on Importance of nurturing relationship as an essential part of human life. (200 words)

A8 . The ch. Discovering Tut presents a fight between traditional cultural trends and modern scientific practices. In this pretext prepare a debate either for the motion or against the motion on the topic ' Traditions, rituals and funerary practices should be respected.' (150 words)

A 9. Medical supervision & doctors' practical approaches to the incidences of varied illnesses draw a stark distinction. Dr Andrew's practical applications of a past experience survived a new born baby which proved apt to the situation. Share your views about it through an article. (150 words)

A 10. Read the following extracts and answer the questions:

a). ' I give back life to my own origin.'

1. Who speaks the above statement?
2. What origin is referred to here ?
3. How does the speaker give life back to its origin?
4. Name the poem & the poet.

b). ' A sadist, sir, is one who gets pleasure out of giving pain .'

1. Who are the speaker and the listener of the above statement ?
2. Who is referred to as a sadist here ?
3. How does the speaker justify the statement?
4. Does the speaker really mean what he says ?

c). ' I didn't think, he was from those parts as he was wearing a windcheater and metal rimmed spectates of western style.'

1. Name the chapter and the writer.
2. Who is referred to as ' he' in the above statement?
3. Where did the writer meet the person spoken to?
4. How did the writer react to his meeting the person?

A 11. Answer the questions briefly:

a) What is catastrophic theory? How is it applicable to the battle of Panipat?
b) Which three aspects of life are focused in the poem ' Childhood ' and how?
c) Comment on- The author's grandmother was a strong personality.

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XI (MATHS)

1. Find the equation of the circle passing through the points (2, 3) and (–1, 1) and whose centre is on the line x – 3y – 11 = 0.
2. A circle touches the x-axis at the point (8, 0) and passes through the point (4, 3). Find the equation of the circle.
3. Find the equation of the circle that passes through the points (1, 2), (2, 3), and (3, 1).
4. A circle has equation $x^2 + y^2 + 6x - 4y + 4 = 0$. Find the center and radius of the circle.
5. Find the equation of the parabola whose focus is at the point (2, 3) and whose directrix is the line y = 1.
6. Find the equation of the parabola whish is symmetric with the x axis and passes through the point (4, 8).
7. Find the equation of the parabola that has the line x = 3 as its axis of symmetry and passes through the point (4, 2).
8. Find the equation of the ellipse whose center is at the point (2, 3), whose semi-major axis is 5, and whose semi-minor axis is 3.
9. Find the equation of the ellipse that passes through the points (1, 2), (2, 4), and (3, 6).
10. **Evaluate the given limit:** $\lim_{x\to 2} \frac{3x^2 - x - 10}{x^2 - 4}$
11. **Evaluate the given limit:** $\lim_{x\to 0} \frac{\sin ax}{\sin bx}, a, b \neq 0$
12. Differentiate sin3x with respect to x using First Principle.
13. Evaluate the given limit: $\lim_{x\to 0} \frac{\sin ax + bx}{ax + \sin bx}$.
14. **Find the derivative of $\frac{x^n - a^n}{x - a}$ for some constant a.**
15. **Find the derivative of**

    (i) $2x - \frac{3}{4}$ **(ii)** $(5x^3 + 3x - 1)(x - 1)$

    (iii) $x^{-3}(5 + 3x)$ **(iv)** $x^5(3 - 6x^{-9})$

    (v) $x^{-4}(3 - 4x^{-5})$ **(vi)** $\frac{2}{x+1} - \frac{x^2}{3x-1}$.

Activity & Practical

Write 05 practicals in the practical copy.

XI (BIOLOGY)

1.(i). Why are phloem and xylem complex tissues?

(ii). Give the differences between Dicot stem and monocot stem.

(iii) Which cells curl the leaves in plants during water stress?

2.(i) Who proposed the fluid mosaic model of the plasma membrane?

(ii) cell organelles are enclosed by a single unit membrane and double unit membrane.

3.Name two cell organelles that are double membrane-bound. What are the characteristics of these two organelles? State their functions and draw labelled diagrams of both.

4.What is a mesosome in a prokaryotic cell? Mention the functions that it performs.

5.Comment on cart wheel structure of centriole.

6.The genomic content of the nucleus is constant for a given species whereas the extra chromosomal DNA is found to be variable among the members of a population. Explain.

7.What is meant by tertiary structure of proteins? Draw the structure of amino acid, alanine.

8. Formation of enzyme-substrate complex is the first step in catalysed reactions. Describe the other steps till the formation of products.

9. What are the different classes of enzymes? Explain any two with type of reaction they catalyse.

10. Name three phases of interphases .Give one measure event of each phase.

11.Both unicellular and multicellular organisms undergo mitosis. What are the difference observed in the process between the two.

12.Comment on the statement 'telophase is reverse of prophase. '

13.Describe the following words.
(i)Synapsis (ii) Bivalent (iii) Chiasmata

14.Explain the male reproductive system of frog with the help of diagram.

15.Describe briefly the structure of chromosomes.

Project: Descibe different events of mitosis and meiosis with the help of suitable diagram. (In channel file)

XI (I.P.)

1) Write a program to find maximum of 3 numbers using nested if..else statement
2) Write a program to input age of a person and print message "Eligible to Vote" if age is more than 18 otherwise print message "not eligible to Vote".
3) Differentiate between append() and extend() methods of list.
4) What will be the output of the following statements?

a)	list1 = [12,32,65,26,80,10] list1.sort() print(list1)
b)	list1 = [12,32,65,26,80,10] sorted(list1) print(list1)
c)	list1 = [1,2,3,4,5,6,7,8,9,10] list1[::-2] list1[:3] + list1[3:]
d)	list1 = [1,2,3,4,5] list1[len(list1)-1]

5) What will be the output of the following code segment?

a)
```
myList = [1,2,3,4,5,6,7,8,9,10]
    del myList[3:]
print(myList)
```

b)
```
myList = [1,2,3,4,5,6,7,8,9,10]
  del myList[:5]
print(myList)
```

c)
```
myList = [1,2,3,4,5,6,7,8,9,10]
    del myList[::2]
print(myList)
```

6) Consider a list:

```
list1 = [6,7,8,9]
```

What is the difference between the following operations on list1:

a) lis t1 * 2

b) lis t1 *= 2

c) lis t1 = lis t1 * 2

7) Consider the following dictionary stateCapital:

stateCapital =
{"Assam":"Guwahati","Bihar":"Patna","Maharashtra":"Mumbai","Rajasthan":"Jaipur"
}

Find the output of the following statements:

a)	print(stateCapital.get("Bihar"))
b)	print(stateCapital.keys())
c)	print(stateCapital.values())
d)	print(stateCapital.items())
e)	print(len(stateCapital))
f)	print("Maharashtra" in stateCapital)
g)	print(stateCapital.get("Assam"))
h)	del stateCapital["Assam"] print(stateCapital)

XI (P.E)

Q1- Define physical fitness and wellness. Elaborate the importance of physical fitness and wellness in detail.

Q2- Define strength and discuss its types in brief.

Q3- What do you mean by traditional sports and regional games?

Q4- Discuss any five tests used in physical education and sports.

Q5- Discuss the test administration guidelines during tests and after the test.

Q6- What do you mean by anatomy and physiology? Elucidate the importance of anatomy and physiology in the field of physical education and sports.

Q7- What do you mean by skeleton system? Elaborate the freely movable joints in detail.

Q8- Elucidate the classification of bones?

Q9 – State the function of bones?

Q10- Discuss about the structure, location, and function of heart.

XI (PHYSICS)

1 State Kepler's laws on planetary motion. Explain the way the three laws can be proved.

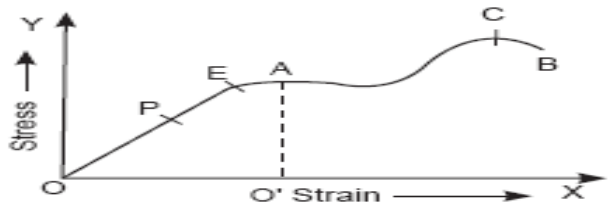
2 What is the difference between gravitational potential and gravitational potential energy. Derive an expression for gravitational potential energy of a body.

3 What is escape velocity? Obtain the expression for the escape velocity on earth.

Why is it that there is no atmosphere on the moon? Explain.

4 (i) Prove that the work done in stretching a wire per unit volume is 1/2 × tension × extension.
(ii) Prove that the work done per unit volume in stretching a wire for every type of strain = 1/2 × stress × strain.

5 The Stress-Strain graph for a metal wire is shown in the figure upto the point E. The wire returns to its original state O along the curve EPO when it is gradually unloaded. Point B corresponds to the fracture of the wire :



(i) Upto what point of the curve is Hooke's law obeyed ?
(ii) Which point on the curve corresponds to the elastic limit or yield point of the wire?
(iii) Indicate the elastic and plastic regions of the Stress-Strain graph.
(iv) Describe what happens when the wire is loaded upto a stress corresponding to the point A on the graph, and then unloaded gradually. In particular, explain, the dotted curve.
(v) What is peculiar about the portion of the Stress-Strain graph from C to B ?Upto what stress can the wire be subjected without causing fracture?

6 Describe stress-strain relationship for a loaded steel wire and hence explain the terms : Elastic limit, yield point, tensile strength.

7 A 10 kg mass is to be divided into two parts, such that the force of attraction between them is maximum. What is the mass of each portion?

8 How far above the earth's surface does the value of *g* becomes 20% of its value on the surface ?

9 A steel wire of length 4.7 m and cross section 3.0×10^{-5} m^2stretches by the same amount as a copper wire of length 3.5 m and cross section 4.0×10^{-5} m^2 under a given load. What is the ratio of the Young's modulus of steel to that of copper ?

10 A cable is replaced by another cable of the same length and material but twice the diameter. How will this affect the elongation under a given load?

Project Work

Complete the lab manual with following practicals:-

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beakerusing Vernier Callipers and hence find its volume.

2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.

3. To determine volume of an irregular lamina using screw gauge.

4. To determine radius of curvature of a given spherical surface by a spherometer.

XI(CHEMISTRY)

Choose the correct option

1.Which of the following substances has a dipole moment more than zero?

(a) Water (b) Methane

(c) Carbon dioxide (d) Nitrogen

2.Which one has a pyramidal shape?

(a) SO_3 (b) PCl_3

(c) CO_3^{2-} (d) NO_3^-

3.Which one of the following does not have sp2 hybridised carbon?

(a) Acetone (b) Acetic acid

(c) Acetonitrile (d) Acetamide

4.The structure of IF_7 is

(a) Pentagonal bipyramid (b) Square pyramid

(c) Trigonal bipyramid (d) Octahedral

5.13.The bond length between hybridised carbon atom and other carbon atom is minimum in

(a) Propan (b) Butane

(c) Propene (d) Propyne

6.The number of types of bonds between two carbon atoms in calcium carbide is

(a) Two sigma, two pi (b) One sigma, two pi

(c) One sigma, one pi (d) Two sigma, one pi

7.Which of the following types of hybridisation leads to three dimensional geometry of bonds around the carbon atom?

(a) sp (b) sp2

(c) sp3 (d) None of these

8.The maximum number of hydrogen bonds that a molecule of water can have is

(a) 1 (b) 2

(c) 3 (d) 4

9.Which of the following will have the lowest boiling point?

(a) 2-Methylbutane (b) 2-Methylpropane

(c) 2,2-Dimethylpropane (d) n-Pentane

10.The force that binds molecules in a crystal is

(a) hydrogen bond (b) electrostatic attraction

(c) Van der Waal's attraction (d) dipole-dipole attraction

11.Enthalpy of combustion of carbon to CO_2 is –393.5 kJ mol–1. Calculate the heat released upon the formation of 35.2 g of CO_2 from carbon and dioxygen gas.

12 Given $N_2(g) + 3H_2(g) \rightarrow 2NH_3(g)$; $\Delta rH^0 = -92.4$ kJ mol–1

What is the standard enthalpy of the formation of NH_3 gas?

13.The enthalpy of combustion of methane, graphite and dihydrogen at 298 K are –890.3 kJ mol–1 –393.5 kJ mol–1, and –285.8 kJ mol–1, respectively. Enthalpy of the formation of CH_4 will be?

14. Draw energy level diagram of O_2 Molecule.

15. How do bonding molecular orbital differ from anti bonding molecular orbital.

Project work

Draw geometry of molecules in which the central atom has no lone pair of electrons and having one or more lone pair of electrons in A4 size paper.

_____x _____