

20.08.19

T.T Chemistry

Time: 45 Mins

STD: XI (A,C)

Marks: 25

I. Choose the correct answer:

5x1=5

- In which of the following options the order of arrangement does not agree with the variation of property indicated against it?
 - $I < Br < Cl < F$ (increasing electron gain enthalpy)
 - $Li < Na < K < Rb$ (increasing metallic radius)
 - $Al^{3+} < Mg^{2+} < Na^+ < P^-$ (increasing ionic size)
 - $B < C < O < N$ (increasing first ionisation enthalpy)
- The correct order of electron gain enthalpy with negative sign of F, Cl, Br and I having atomic number 9, 17, 35 and 53 respectively is
 - $I > Br > Cl > F$
 - $F > Cl > Br > I$
 - $Cl > F > Br > I$
 - $Br > I > Cl > F$
- In a given shell the order of screening effect is
 - $s > p > d > f$
 - $s > p > f > d$
 - $f > d > p > s$
 - $f > p > s > d$
- In the third period the first ionization potential is of the order
 - $Na > Al > Mg > Si > P$
 - $Na < Al < Mg < Si < P$
 - $Mg > Na > Si > P > Al$
 - $P < Mg < Si > Al < Na$
- Which one of the following is the least electronegative element?
 - Bromine
 - Chlorine
 - Iodine
 - Hydrogen

II. Answer any 5 of the following:

5x2=10

- What is effective nuclear charge?
- Give the general electronic configuration of lanthanides and actinides.
- Explain diagonal relationship.
- Mention amphoteric nature of $Be(OH)_2$.
- Define electron gain enthalpy.
- Define electron affinity.

III. Answer any 2 of the following:

2x5=10

- Explain the Pauling method for the determination of ionic radius (3M)
 - In what period and group will an element with $Z=116$ will be present? (2M)
- Explain the periodic trend of ionisation potential. (3M)
 - What is Screening effect? (2M)
- A tank contains a mixture of 52.5g of oxygen and 65.1g of CO_2 at 300K the total pressure in the tanks is 9.21atm. Calculate the partial pressure (in atm) of each gas in mixture.

20.08.19

T.T Business Maths

Time: 45 Mins

STD: XI (E,F,G)

Marks: 30

I. Choose the correct answer:

5x1=5

- The double ordinate passing through the focus is _____.
 - focal chord
 - latus rectum
 - directrix
 - axis
- The equation of directrix of the parabola $y^2 = -x$ is _____.
 - $4x+1=0$
 - $4x-1=0$
 - $x-4=0$
 - $x+4=0$
- The eccentricity of the parabola is _____.
 - 3
 - 2
 - 0
 - 1
- Combined equation of co-ordinate axes is _____.
 - $x^2-y^2=0$
 - $x^2+y^2=0$
 - $xy=c$
 - $xy=0$
- The centre of the circle $x^2+y^2-2x+2y-9=0$ is _____.
 - (1, 1)
 - (-1, -1)
 - (-1, 1)
 - (1, -1)

II. Answer any 5 of the following:

5x3=15

- Show that the demand function $x=10p-20-p^2$ is a parabola and price is maximum at its vertex.
- Find the value of k so that the line $3x+4y-k=0$ is a tangent to $x^2+y^2-64=0$
- Find the length of the tangent from the point (2, 3) to the circle $x^2+y^2+8x+4y+8=0$
- Find the equation of tangent at the point (-2, 5) on the circle $x^2+y^2+3x-8y+17=0$
- Determine whether the points P(1, 0), Q(2, 1) lies outside or inside or on the circle $x^2+y^2-4x-6y+9=0$
- Find the focus, the vertex, the equation of the directrix, the axis and the length of the latus rectum of the parabola $y^2 = -12x$.

III. Answer any 2 of the following:

5x2=10

- Find the axis, vertex, focus, equation of directrix and length of latus rectum for the parabola $y^2-8y-8x+24=0$.
- Find the value of P if the line $3x+4y-p=0$ is a tangent to the circle $x^2+y^2=16$.
- Find the equation of the parabola whose focus is (1, 3) and whose directrix is $x-y-2=0$.

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20.08.19 T.T Economics Time: 45 Mins
 STD: XI (H,I) Marks: 30
 I. Choose the correct answer: 5x1=5

1. Formula for calculating AP is
 a) $\frac{\Delta TP}{N}$ b) $\frac{TP}{N}$ c) $\frac{TP}{MP}$
2. An Iso-quant curve is also known as
 a) Equi-marginal utility b) Equal Product Curve
 c) Inelastic demand curve
3. The short-run production is studied through
 a) Iso-quant b) Law of Demand
 c) The Law of Variable Proportions
4. Which factor is called the changing agent of the society?
 a) Land b) Organizer c) Capital
5. Cobb-Douglas production function assumes
 a) Diminishing returns to scale
 b) Constant returns to scale
 c) Increasing returns to scale

II. Answer any 4 of the following: 4x2=8

6. Define Marginal product of a factor.
7. What are the conditions for producer's equilibrium?
8. Define Labour.
9. State the production function.
10. What are the reasons for upward sloping supply curve?

III. Answer any 4 of the following: 4x3=12

11. What are the functions of Entrepreneur?
12. Illustrate the concept of Producer's Equilibrium.
13. What are the factors of governing elasticity of supply?
14. State the Cobb-Douglas Production Function.
15. State and explain the elasticity of supply.

IV. Answer any 1 in detail: 1x5=5

16. Explain the internal and external economies of scale.
17. Elucidate the Laws of Returns to scale. Illustrate.

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20.08.19 T.T Physics Time: 45 Mins
 STD: XI (B,D) Marks: 30
 I. Choose the correct answer: 5x1=5

1. A spring of force constant K is cut into two pieces such that one piece is double the length of the other. Then, the long piece will have a force constant of _____.
 a) $\frac{2}{3}K$ b) $\frac{3}{2}K$ c) 3K d) 6K
2. If the linear momentum of the object is increased by 0.1%, then the kinetic energy is increased by _____.
 a) 0.1% b) 0.2% c) 0.4% d) 0.01%
3. The work done by the conservative force for a closed path is
 a) always negative b) zero c) always positive d) not defined
4. What is the minimum velocity with which a body of mass m must enter a vertical loop of radius R so that it can complete the loop?
 a) $\sqrt{2gR}$ b) $\sqrt{3gR}$ c) $\sqrt{5gR}$ d) \sqrt{gR}
5. The coefficient of restitution for a material lies between
 a) 0 to 1 b) -1 to 0 c) $0 < e < 1$ d) $0 > e > 1$

II. Answer any 5 of the following: 5x2=10

6. Write the various types of potential energy.
7. Define coefficient of restitution.
8. Define power and its formula.
9. Difference between conservative and non-conservative forces.
10. Define law of conservation of energy.
11. Difference between elastic and inelastic collision.

III. Answer in detail: 5x3=15

12. State and explain work energy principle. Mention any three examples for it.
13. Arrive at an expression for power and velocity. Give some examples for the same.
14. Arrive at an expression for elastic collision in one dimension and discuss any 3 cases.

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20.08.19 T.T Computer Application Time: 45 Mins

STD: XI (F,G) Marks: 30

I. Answer any four of the following: 4x2=8

1. What are the different packages in Open Office?
2. How do you merge cells in a table?
3. What is word processors?
4. What is insertion point & word wrap?
5. What is text formatting?

II. Answer any four of the following: 4x3=12

6. Difference between copying and moving a text.
7. What are the different types of orientation?
8. Write the steps to change orientation.
9. Define highlighting.
10. What are the types of line spacing?

IV. Answer in detail: 2x5=10

11. How to change the Margin using ruler?

(or)

Explain the types of paragraph alignment.

12. How to insert date and page number?

(or)

How to create bullets and numbering in a document?