

16.10.19

T.T Chemistry

Time: 45 Mins

STD: XI (A,B)

Marks: 30

I. Choose the correct answer:

5x1=5

1. Which of the following statement is false?
 - a) Ca^{2+} ions are not important in maintaining the regular beating of the heart
 - b) Mg^{2+} ions are important in green parts of the plants
 - c) Mg^{2+} ions form a complex with ATP
 - d) Ca^{2+} ions are important in blood clotting
2. In context with beryllium, which one of the following statements is incorrect?
 - a) It is rendered passive by nitric acid
 - b) It forms Be_2C
 - c) Its salts are rarely hydrolysed
 - d) Its hydride is electron deficient and polymeric
3. Which is the correct sequence of solubility of carbonates of alkaline earth metals?
 - a) $\text{BaCO}_3 > \text{SrCO}_3 > \text{CaCO}_3 > \text{MgCO}_3$
 - b) $\text{MgCO}_3 > \text{CaCO}_3 > \text{SrCO}_3 > \text{BaCO}_3$
 - c) $\text{CaCO}_3 > \text{BaCO}_3 > \text{SrCO}_3 > \text{MgCO}_3$
 - d) $\text{BaCO}_3 > \text{CaCO}_3 > \text{SrCO}_3 > \text{MgCO}_3$
4. The radioactive element of group 2 element is
 - a) Strontium
 - b) Radium
 - c) Beryllium
 - d) Francium
5. Consider the following statements:
 1. Gypsum is calcium sulphate hemihydrate
 2. Retrograde solubility is striking feature of gypsum
 3. Alabaster is a variety of gypsum
 Which of the following statement(s) given above is/are incorrect?
 - a) 1 and 3
 - b) only 1
 - c) 2 and 3
 - d) 1, 2 & 3

II. Answer any 5 of the following:

5x2=10

6. What is the amount of Ca and Mg required by human body?
7. What is retrograde solubility?
8. Write the preparation of plaster of paris.

9. Draw the structure of BeCl_2 10. Complete the reaction: $\text{BeCl}_2 + \text{LiAlNH}_4 \rightarrow$

11. Write balanced chemical equation:

- a) heating calcium oxide with carbon
- b) heating calcium with oxygen

III. Answer any 5 of the following:

3x5=15

12. Write the uses of gypsum.
13. Discuss briefly the similarities between Beryllium and Aluminium.
14. Describe briefly the biological importance of calcium and magnesium.
15. Complete and balance the following equations:
 - i) Slaked lime + $\text{CO}_2 + \text{H}_2\text{O} \rightarrow$
 - ii) Quick lime + $\text{CO}_2 \rightarrow$
 - iii) Slaked lime + $\text{CO}_2 \rightarrow$
 - iv) $\text{Be}(\text{OH})_2 + \text{HCl} + \text{H}_2\text{O} \rightarrow$

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16.10.19 T.T Physics Time: 45 Mins
 STD: XI (C,D) Marks: 30

- I. Choose the correct answer: 5x1=5
- The linear momentum and position vector for the planet is perpendicular to each other at _____.
 a) perihelion and aphelion b) at all points
 c) only at perihelion d) no point
 - If the mass and radius of the earth are both doubled then the acceleration due to gravity 'g' _____.
 a) remains same b) $\frac{g}{2}$ c) 2g d) 4g
 - If a person moves from Chennai to Trichy his weight _____.
 a) increases b) decreases c) remains same
 d) increases and then decreases
 - The Kinetic energy of the satellite orbiting around the earth is
 a) equal to potential energy b) less than potential energy
 c) greater than kinetic energy d) zero
 - The time period of revolution of the planet Neptune to revolving around the sun is _____.
 a) 0.24 years b) 165 years c) 84 years d) 11.9 years
- II. Answer any 5 in short: 5x2=10
- State Kepler's three laws.
 - State Newton's law of gravitation.
 - Define gravitational field. Give its unit.
 - Define gravitational potential.
 - Define escape speed.
 - What is meant by superposition of gravitational field?
- III. Answer any 3 in detail: 3x5=15
- Derive an expression for escape speed.
 - Explain the variation of g with depth from the earth surface.
 - Derive the expression for gravitational potential energy.
 - a) Derive Newton's inverse square law.
 b) Moon and an apple are accelerated by the same gravitational force due to earth. Compare the acceleration of the two.

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16.10.19 T.T English Time: 45 Mins
 STD: XI (E,H,I) Marks: 25

- I. Do as directed: 7x1=7
- Change the following to Indirect speech:
- Mani said, "I bought a car".
 - Madhu said, "I was walking along the street".
 - Sundar said to me, "I'll see you later".
- Change the following to Direct speech:
- Senthil asked me if I knew him.
 - Zuber asked Saira if she was living there.
 - Shanthi asked Baskar what he was doing then.
 - The librarian instructed the students to speak softly.
- II. Summarise the following: 1x5=5
- The aim of Education is to enable the human personality to grow to its status in full. Man has a body, mind and spirit. Accordingly, education aims at the physical, the intellectual, the spiritual and the moral development of a man. Games are the means of keeping the body healthy and fit. Physical fitness and freedom from all kinds of ailments are the desire and ambition of every human being. Indeed, good health is the first condition of happiness in life. Those who play games regularly maintain good health. Games are excellent means of body exercise. They keep the body healthy and strong. Players always have a better appetite and a better digestion than those who don't play games or take no exercise. There are many games like Hockey, Football, Tennis etc and other games like Kabadi, Hide and seek etc., If a man wants to develop his personality he has to keep his body healthy. "All work and no play makes Jack a dull boy" – so the work and play should be fairly balanced.
9. Respond to the following advertisement: 1x6=6
- WANTED**
- Wanted enterprising young man for the post of SALESMAN for our new branch dealing with Textiles.
 Minimum qualification required. A degree from any of recognised University with atleast 2 years experience in the same field.
 Apply with your curriculum vitae and photo to
RVS PRIVATE LIMITED
 No.90, Grams Road, Chennai-600 006.

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16.10.19 T.T Accountancy Time: 45 Mins
STD: XI (F,G) Marks: 30

I. Answer the following: 6x5=30

1. Furniture was purchased for ₹60,000 on 1/7/16. It is expected to last for 5 years. Estimated scrap at the end of five years is ₹4,000. Find out the rate of depreciation under straight line method.

2. Calculate the rate of depreciation under straight line method from the following information:

Purchased Machinery on 1/1/18 for ₹38,000

On 1/1/18 spent ₹ 12,000 on its repairs

Expected useful life of machine is 4 years

Estimated residual value ₹6,000

3. Machinery was purchased on 1/1/15 for ₹4,00,000. ₹15,000 was spent on its erection and ₹ 10,000 on its freight charges.

Depreciation is charged at 10% per annum on straight line method. The books are closed on 31st March each year. Calculate the amount of depreciation on machinery for the first two years.

4. From the following particulars, give Journal entries for 2 years and Prepare machinery a/c under straight line method of providing depreciation:

Machinery purchased on 1/1/16	₹ 36,000
Freight charges	2,500
Installation charges	1,500
Life of the machine	5 years

5. A manufacturing company purchased on 1/4/10 Machinery for ₹4,50,000 and spent ₹ 50,000 on its installation. After having used it for 3 years, was sold for ₹ 3,85,000. Depreciation is to be provided every year at the rate of 15% p.a. on fixed installment method. Accounts are closed on 31st March every year. Calculate profit & loss on sale of machinery.

6. On 1/4/08, Sundar & Company purchased machinery for ₹64,000. To install the machinery expenses incurred was ₹28,000. Depreciation on machinery 10% p.a. under straight line method. On 30/06/10 the worn out machinery was sold for ₹52,000. The books are closed on 31st December every year. Show Machinery account.