

EVERWIN MATRIC. HR. SEC. SCHOOL

14.10.19 T.T Chemistry Time: 45 Mins  
 STD: XII (A-C) Marks: 30

I. Choose the correct answer: 5x1=5

- Lysine is \_\_\_\_\_.  
 a) basic aminoacid b) acidic aminoacid c) both a & b  
 d) none of these
- Proteins are polymers of \_\_\_\_\_.  
 a)  $\alpha$  amino acid b)  $\beta$  amino acid  
 c) both d) All of the above
- Aminoacids are linked together by \_\_\_\_\_.  
 a) peptide bond b) covalent bond  
 c) Vanderwaal's forces d) Hydrogen bond
- In aqueous solution of aminoacids mostly exists in \_\_\_\_\_.  
 a)  $\text{NH}_2\text{-CH-R-COOH}$  b)  $\text{NH}_2\text{-CH(R)-COO}^-$   
 c)  $^+\text{NH}_3\text{-CH(R)-COOH}$  d)  $\text{H}_3\text{N}^+\text{-CH-R-COO}^-$

- Among the following the achiral aminoacid is \_\_\_\_\_.  
 a) 2-ethylalanine b) 2-methyl glycine  
 c) 2-hydroxy methylserine d) Tryptophan

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

- Write the structure of glutamic acid and Tryptophan.
- Define Enzyme.
- What are essential aminoacids?
- List the forces that involve in tertiary structure of protein.
- Define aminoacid.
- What are Zwitterions?

III. Answer any 5 of the following: 5x3=15

- Give a brief note on Denaturation.
- How will you classify protein based on shape?
- Write a note on Isoelectricpoint.
- What is  $\alpha$  -helix? Mention the destabilising aminoacid present in it.
- List the importance of proteins.
- Substantiate the action of enzyme in the conversion of product.

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14.10.19 T.T Commerce Time: 45 Mins  
 STD: XII (F,G) Marks: 30

I. Answer the following:

- Write 5 important consumer legislations. (4)
- What are the needs for consumer protection? (8)
- What are the objectives of United Nations guidelines for consumer protection? (8)
- What are the objectives of COPRA 1986? (10)

SEVERWIN MATRIC. HR. SEC. SCHOOL

14.10.19 T.T Economics Time: 45 Mins  
 STD: XII (H-J) Marks: 30

I. Choose the correct answer: 5x1=5

- Methods of repayment of public debt is \_\_\_\_\_.  
 a) Conversion b) Sinking fund c) Funded debt  
 d) All of these
- GST is equivalence of \_\_\_\_\_.  
 a) Sales tax b) Corporation tax c) Income tax d) Local tax
- The primary purpose of deficit financing is \_\_\_\_\_.  
 a) Economic development b) Economic stability  
 c) Economic equality d) Employment generation
- Revenue Receipts of the Government do not include \_\_\_\_\_.  
 a) Interest b) Profits and dividends  
 c) Recoveries and loans d) Rent from property
- The Modern state is \_\_\_\_\_.  
 a) Laissez-faire state b) Aristocratic state  
 c) Welfare state d) Police state

II. Answer the following: 5x2=10

- Differentiate tax and fee.
- What do you mean by public debt?
- Write a short note on zero based budget.
- What is public revenue?
- Define public finance.

III. Answer the following: 5x3=15

- Point out any three differences between direct tax and indirect tax.
- Mention any three methods of redemption of public debt.
- What are the functions of modern state?
- Mention any three similarities between public finance and private finance.
- Describe canons of taxation.

14.10.19

T.T Physics

Time: 45 Mins

STD: XII (D,E)

Marks: 30

I. Choose the correct answer:

5x1=5

1. Emission of electrons by the absorption of heat energy is called \_\_\_\_\_ emission.

- a) Photo electric    b) Field    c) Thermionic    d) Secondary

2. The work functions for metals A, B and C are 1.90 ev, 2.0 ev and 5.00 ev respectively. The metals which will emit photoelectrons for a radiation of wavelength  $4100 \text{ \AA}$  is/are \_\_\_\_

- a) A only    b) both A and B    c) all these metals    d) none

3. Which among the following is the cut-off frequency of X-rays from an X-ray tube of accelerating potential 20,000V?

- a)  $4.84 \times 10^{-18} \text{ Hz}$     b)  $4.84 \times 10^{18} \text{ Hz}$   
c)  $48.2 \times 10^{19} \text{ Hz}$     d)  $4.24 \times 10^{-18} \text{ Hz}$

4. Which among the following show photo electric emission for ultra violet light?

- a) Magnesium    b) Caesium    c) Sodium    d) None

5. When a metallic surface is illuminated with radiation of wavelength  $\lambda$ , the stopping potential is V. If the same surface is illuminated with radiation of wavelength  $2\lambda$ , the stopping potential is  $\frac{V}{4}$ . The threshold wavelength for the metallic surface is \_\_\_\_\_.

- a)  $4\lambda$     b)  $5\lambda$     c)  $\frac{5}{2}\lambda$     d)  $3\lambda$

II. Answer any 4 of the following:

4x2=8

6. What is photoelectric effect?

7. State de Broglie hypothesis.

8. Define stopping potential.

9. The work function of Potassium is 2.30ev. UV light of wavelength  $3000 \text{ \AA}$  and intensity  $2 \text{ Wm}^{-2}$  is incident on the potassium surface. Determine the maximum kinetic energy of the photo electrons.

10. Define work function of a metal.

III. Answer any 4 of the following:

4x3=12

11. Explain the laws of photo electric effect.

12. What is a photo cell? Mention the different types of photo cells.

13. Explain the construction and working of photo emissive cell.

14. Explain the types of electron emission. (Diagram not necessary)

15. Explain the characteristics of photons.

IV. Answer any 1 in detail:

1x5=5

16. Explain the construction and working of Electron microscope with diagram.

17. Describe Einstein's explanation of photo electric equation in detail.