

EVERWIN MATRIC. HR. SEC. SCHOOL

22.10.19 TT Chemistry Time: 45 Mins
 STD: XII (C,D) Marks: 30
 I. Choose the correct answer: 5x1=5

1. Keratin is an example of _____.
 a) Fibrous protein b) Globular protein
 c) Both a and b d) All of the above
2. Lactose is hydrolysed by _____.
 a) Sucrase b) Lactase c) Carbonichydrase
 d) Invertase
3. Which of the following aminoacids are achiral?
 a) Alanine b) Leucine c) Proline d) Glycine
4. Which of the following statement is incorrect?
 a) Ovalbumin is a simple food reserve in egg white
 b) Blood proteins thrombin is involved in blood clotting
 c) Denaturation makes protein more active
 d) Insulin maintain the sugar level in human body
5. Amino acids are linked together by _____.
 a) α -glycosidic bond b) β -glycosidic bond
 c) peptide bond d) disulphide bond

II. Answer any 3 of the following: 3x2=6

6. Write a short note on peptide bond.
7. Write the Zwitterionic structure of alanine and glycine.
8. List the functions of lipids in living organisms.
9. What are proteins?

III. Answer any 3 of the following: 3x3=9

10. Write a note on denaturation of proteins.
11. Brief on the mechanism of enzyme action.
12. Write a note on quaternary structure of protein.
13. Classify proteins based on shape.

IV. Answer any 2 of the following: 2x5=10

14. Write the differences between primary and secondary structure of protein.
15. List the importance of proteins.
16. Define the following:
 a) Enzyme (2M) b) Isoelectric point (2M)
 c) Write the structure of phenyl alanine and Aspartic acid (1M)

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22.10.19 TT Economics Time: 45 Mins
 STD: XII (F,G,H) Marks: 30

I. Fill in the blanks: 6x1=6

1. The Administrative Reforms Commission was setup in _____.
2. The Government of India presented Zero Base Budgeting in _____.
3. _____ deficit is equal to fiscal deficit minus interest payments.
4. The 15th Finance Commission has been setup in November ____.
5. The _____ system as a whole should be well integrated.
6. A Finance Commission is setup once in every _____ years.

II. Answer the following:

7. Explain the principles of Federal finance. (10)
8. State and Explain instruments of fiscal policy. (7)
9. What are the reasons for the recent growth in public expenditure? (Any 4) (7)

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22.10.19 TT Commerce Time: 45 Mins
 STD: XII (I,J) Marks: 30

I. Answer the following:

1. What are the responsibilities of consumers? (10)
2. What do you understand by Right to Redressal? (5)
3. Define Consumer Rights. (5)
4. What is the supreme objective of business? (4)
5. Write short notes on "Right to be informed". (3)
6. Mention any 6 duties of consumers. (3)

22.10.19

TT Physics

Time: 45 Mins

STD: XII (A,E)

Marks: 30

I. Choose the correct answer:

5x1=5

1. The wavelength of a light is 450nm. How much phase it will differ for a path of 3mm?

- a) $\frac{\pi}{75} \times 10^6$ rad b) $\frac{75}{\pi} \times 10^6$ rad c) $\frac{\pi}{75} \times 10^{-6}$ rad
d) none

2. Which among the following is the distance for which ray optics is good approximation for an aperture of 5mm and wavelength 500nm?

- a) 5m b) 10m c) 25m d) 15m

3. In a young's double-slit experiment, the slit separation is doubled. To maintain the same fringe spacing on the screen, the screen-to-slit distance (D) must be changed to, _____.

- a) 2D b) $\frac{D}{2}$ c) $\sqrt{2D}$ d) $\frac{D}{\sqrt{2}}$

4. Two coherent monochromatic light beams of intensities I and 4I are superposed. The maximum and minimum possible intensities in the resulting beam are _____.

- a) 5I and I b) 5I and 3I c) 9I and I d) 9I and 3I

5. Which among the following is correct in which the diffraction is not possible?

- a) $a \gg \lambda$ b) $a \geq \lambda$ c) $a = \lambda$ d) $a < \lambda$

II. Answer any 4 of the following:

4x2=8

6. Define Interference of light.

7. Difference between Fresnel and Fraunhofer diffractions.

8. A monochromatic light of wavelength 5000\AA passes through a single slit producing diffraction pattern for the central maximum. (Hint $\theta=30^\circ$)

9. Define Fresnel's distance.

10. Define Band width.

III. Answer any 4 of the following:

4x3=12

11. Difference between Interference and Diffraction.

12. Two lights of wavelengths 560nm and 420nm are used in Young's double slit experiment. Find the least distance from the central fringe where the Bright fringe of the two wavelengths coincides. Given $D=1\text{m}$ and $d=3\text{mm}$.

13. Write a short note on Interference with polychromatic light.

14. Write the conditions for obtaining clear and broad interference bands.

15. Two light sources with amplitude 5 units and 3 units respectively interfere with each other. Calculate the ratio of maximum and minimum intensities.

IV. Answer any 1 of the following:

1x5=5

16. Explain the Young's double slit experimental setup and obtain the equation for path difference.

17. Discuss the diffraction at a grating and obtain the condition for the m^{th} maximum.

22.10.19

TT Physics

Time: 45 Mins

STD: XII (B)

Marks: 30

I. Choose the correct answer:

5x1=5

1. The speed of light in an isotropic medium depends on _____.
 - a) its intensity
 - b) its wavelength
 - c) the nature of propagation
 - d) the motion of the source
2. Stars twinkle due to _____.
 - a) reflection
 - b) total internal reflection
 - c) refraction
 - d) Polarisation
3. For light incident from air on a slab of refractive index 2, the maximum possible angle of refraction is _____.
 - a) 30°
 - b) 45°
 - c) 60°
 - d) 90°
4. If the rays appear to diverge from the image then the nature of image is _____.
 - a) real
 - b) convex
 - c) concavo convex
 - d) virtual
5. The refractive index of glass is _____.
 - a) 1.33
 - b) 1.003
 - c) 1.52
 - d) 1.77

II. Answer any 4 of the following:

4x2=8

6. What are the conditions for total internal reflection?
7. What are the laws of reflection?
8. Define optical path.
9. Define refractive index.
10. Light travelling through transparent oil enters into glass of refractive index 1.5, if the refractive index of glass with respect to the oil is 1.25. What is the refractive index?

III. Answer the following:

4x3=12

11. Derive the relation between f and R for spherical mirror.
12. Derive the expression for Apparent depth.
13. a) State snell's law.
b) What are the characteristics of the image formed by plane mirror?
14. An object is placed at a distance of 20cm from a concave mirror of focal length 15cm.
 - a) What distance from the mirror a screen should be placed to get a sharp image?
 - b) What is the nature of the image?

IV. Answer in detail:

1x5=5

15. Derive the mirror equation and equation for lateral magnification.