EVERWIN MATRIC. HR. SEC. SCHOOL

23.10.19   TT Economics   Time: 45 Mins

STD: XII (I,J)   Marks: 30

I. Fill in the blanks: 6x1=6

1. Public finance and private finance are based on _____.
2. Government establishes a separate fund known as _____.
3. Vote-on-account Budget is otherwise called as _____.
4. _____ Act was passed in the Parliament on 29th March 2017.
5. _____ consists of 61 subjects of local interest such as public health, Police etc.,
6. "Taxes on income" does not include _____.

II. Answer the following:

7. Bring out the merits of indirect taxes over direct taxes.   (10)
8. Describe the various types of deficit in budget.   (7)
9. Explain the scope of public finance.   (7)

EVERWIN MATRIC. HR. SEC. SCHOOL

23.10.19   TT Commerce   Time: 45 Mins

STD: XII (F,G,H)   Marks: 30

I. Answer the following:

1. Explain the duties of consumers.   (10)
2. What are the responsibilities of consumers?   (7)
3. Explain any 3 rights of consumers.   (7)
4. What are the rights of consumer according to John.F.Kennedy?   (3)
5. Which is the supreme objective of business?   (3)

EVERWIN MATRIC. HR. SEC. SCHOOL

23.10.19   TT Physics   Time: 45 Mins

STD: XII (C)   Marks: 30

I. Choose the correct answer: 5x1=5

1. The critical angle of water is _____.
    a) 43.3^0 b) 48.6^0 c) 40.5^0 d) 31.9^0
2. Glittering of diamond arrive from the phenomenon _____.
    a) refraction   b) reflection   c) Total internal reflection
    d) mirage
3. Stars twinkle due to _____.
    a) reflection   b) polarisation   c) total internal reflection
    d) refraction
4. If the velocity and wavelength of light in air is V_a and λ_a and that in water is V_w and λ_w, then the refractive index of water is
    a) $\frac{V_w}{V_n}$ b) $\frac{V_a}{V_w}$ c) $\frac{\lambda_w}{\lambda_a}$ d) $\frac{V_a\lambda_a}{V_w\lambda_w}$
5. The radius of curvature of curved surface at a thin planoconvex lens is 10cm and the refractive index is 1.5. If the plane surfaceis silvered, then the focal length will be _____.
    a) 5 cm   b) 10 cm   c) 15 cm   d) 20 cm

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

6. What are the conditions for total internal reflection?
7. What is relative refractive index?
8. State the laws of reflection.
9. 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 of the oil?
10. Define optical path.

III. Answer the following: 4x3=12

11. Derive Apparent depth.
12. What are the characteristics of the image formed by plane mirror?
13. Derive the relation between f and R of the spherical mirror.
14. A thin rod of length $\frac{f}{3}$ is placed along the optical axis of a concave mirror of focal length f such that its image which is real and elongated just touches the rod. Calculate the longitudinal magnification.

IV. Answer in detail: 1x5=5

15. Derive the mirror equation and lateral magnification of spherical mirror.

I. Choose the correct answer: 5x1=5

1. Which among the following is the principle used in double slit?

    a) Huygen's   b) wavefront division   c) Intensity   d) none

2. Which among the following is an example for Intensity and

    amplitude division _____?

        a) Lloyd's mirror   b) Fresnel's biprism

        c) Michelson's Inteferometer   d) Young's double slit

3. 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

4. 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) $\frac{D}{\sqrt{2}}$

5. Which among the following is the distance for which ray optics

    is good approximation for an aperture of 5mm and wavelength

    500 nm?

        a) 25m   b) 50m   c) 150m   d) 100m

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

6. Define Bandwidth.

7. What are the conditions for obtaining clear and broad

    Interference bands?

8. Write the difference between coherent and incoherent sources.

9. Define Fresnel distance.

10. Define Interference.

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

11. Mention the difference between Interference and Diffraction.

12. Write a short note on the Interference with polychromatic light.

13. Two lengths of wavelength 560nm and 420nm are used in Young's double slit experiment. Find the least distance from the central fringe where the bright fringe of two wavelengths coincides. Given D=1m and d=3mm.

14. i) Two light sources with amplitudes 5 units and 3 units respectively interfere with each other. Calculate the ratio of maximum and minimum intensities.   (2 marks)

    ii) Two light sources have intensity of light as I_o. What is the resultant intensity at a point where the two light waves have a phase difference of $\frac{\pi}{3}$?   (1 mark)

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

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. In Young's double slit experiment, the two slits are 0.15mm apart. The light source has a wavelength of 450nm. The screen is 2m away from the slits.

    i) Find the distance of the second bright fringe and also third dark fringe from the central maximum.

    ii) Find the fringe width.

    iii) How will the fringe pattern change if the screen is moved away from the slits?

    iv) What will happen to the fringe width if the whole setup is immersed in water of refractive index $\frac{4}{3}$?

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23.10.19   TT Chemistry   Time: 45 Mins

STD: XII (A&B)   Marks: 30

I. Choose the correct answer: 5x1=5

1. Insulin, a hormone chemically is _____.
    a) fat   b) steroid   c) protein   d) carbohydrate

2. Sugar + Base=_____
  a) Nucleoside b) Nucleotide c) Poly Nucleotide d) Both a & b

3. Which RNA is short lived?
    a) m-RNA   b) t-RNA   c) r-RNA   d) both mRNA & rRNA

4. Vitamin D deficiency leads to _____.
    a) Scurvy   b) Rickets   c) Anaemia   d) Haemorrhage

5. Biotin is also called as _____.
    a) Vitamin B_1 b) Vitamin B_6 c) Vitamin B_7 d) Vitamin B_9

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

6. Write the structure of Adenine and deoxyribose sugar.

7. What is Nucleotide?

8. Differentiate r-RNA and t-RNA.

9. What are paracrine hormone? Give example.

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

10. Give the sources, function and deficiency disease of vitamin c.

11. Differentiate fat soluble and water soluble vitamins.

12. Compare and contrast Endocrine and Autocrine Hormones.

13. Define the following:
  a) Vitamin B_{12} b) Vitamin B_9

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

14. Explain the double helical structure of DNA.

15. Give a note on DNA finger printing.

16. Discuss on fat soluble vitamins in detail.

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23.10.19   TT Chemistry   Time: 45 Mins

STD: XII (E)   Marks: 30

I. Choose the correct answer: 5x1=5

1. Iron stored in protein as _____.
  a) Ferritin b) Siderin c) Cerulo plasmin d) All of the above

2. Haemoglobin is an example for _____ structure of protein.
    a) primary b) secondary c) tertiary d) quarternary

3. Ornithine and Citrulline is the component of _____.
  a) Urea cycle b) TCA cycle c) Both a & b d) None of the above

4. The secondary structure of protein refers to _____.
    a) fixed configuration of the poly peptide backbone
    b) hydrophobic interaction c) sequence of α-aminoacid
    d) α-helical backbone

5. Which of the following aminoacids are chiral?
    a) Alanine   b) Leucine c) Proline   d) Glycine

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

6. Define aminoacid.

7. Write the structure of Aspartic acid and Tryptophan.

8. What are essential aminoacids?

9. Define Zwitterion.

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

10. What is Isoelectric pH?

11. Write a note on Denaturation.

12. Write the mechanism of enzyme action.

13. List the importance of Lipids in day to day life.

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

14. Explain the primary and secondary structure of proteins.

15. Define the following:
  a) peptide bond   b) compound lipid   c) Enzyme

16. Classify proteins based on the shape.