

This question paper contains 3 printed pages]

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S. No. of Question Paper : 7205

Unique Paper Code : 2493010011

Name of the Paper : Molecular Basis of Non-communicable Human Disease

Name of the Course : B.Sc. (Hons.) Biochemistry (NEP/CBCS-LOCF)

Semester : VIII

Duration : 2 Hours

Maximum Marks : 60

(Write your Roll No. on the top immediately on receipt of this question paper.)

There are 6 questions.

Attempt 4 questions in all. All questions carry equal marks.

Question No. 1 is compulsory.

1. (a) Define the following :

(i) ARSD

(ii) PKU

(iii) Diabetes mellitus

(iv) Long QT syndrome

(v) Biomarkers for breast cancer

P.T.O.

(b) State True/False for the given statements :

- (i) PCOS is linked to fetus implantation.
- (ii) Emphysema is a chronic lung disorder.
- (iii) Bulimia involves deposition of lipids in arteries.
- (iv) Misfolded proteins cannot be degraded by proteasomal degradation.
- (v) Hemophilia involves change in the shape of RBC.

(c) Provide reasons for the following :

- (i) Cancer cells show metastasis
- (ii) Lipid deposition in arteries in case of Atherosclerosis
- (iii) Blood clotting in Thalassemia
- (iv) Tau protein is responsible for Alzheimer's disease.
- (v) Maple Syrup disease produces a sweet odor in urine. 5,5,5

2. (a) Write a short note on molecular basis of cancer and write the biomarkers of breast, prostate and hepatic cancer.

(b) Explain the causes and molecular basis of COPD and ARSD.

(c) What are multifactorial diseases ? Explain with an example. 5,5,5

3. (a) Discuss the causes and consequences of Cardiovascular disorders.

(b) Write a short note on eating disorders.

(c) Discuss the role of diet and stress on IBS. 5,5,5

4. (a) Write down the etiology and the molecular basis behind Hemophilia.
(b) What is the importance of proteasomal degradation system? Explain with diagram.
(c) Discuss the molecular basis of Prion's disease. 5,5,5
5. (a) Write short notes on the following :
(i) Maple Syrup urine disease
(ii) Alkaptonuria
(b) Write a short note on clotting disorders.
(c) Describe the molecular basis, symptoms and treatment of Cystic fibrosis. 5,5,5
6. (a) Explain the role of diet and environmental factors on metabolic syndrome.
(b) Why hypothyroidism and hypertension are considered as metabolic syndrome?
(c) Describe the different stages and treatment of atherosclerosis. 5,5,5

