

**ATAL BIHARI VAJPAYEE MEDICAL UNIVERSITY, LUCKNOW**  
**MBBS DEGREE EXAMINATION - 1st PROF PROFESSIONAL REGULAR**  
**EXAM - AUGUST 2024**

**BIOCHEMISTRY - PAPER - II**

**SECTION A - Multiple Choice Questions (MCQs)**

**PAPER CODE: 2412130003**

**SET: C**

**Note: Choose one correct answer in the OMR sheet provided. No overwriting should be done.**

**Time: 20 Minutes**

**(20 x 1 = 20 MARKS)**

1 A patient with increased Hypoxanthine and Xanthine in blood with hypouricemia, which enzyme is deficient?

- a) Xanthine oxidase
- b) APRTase
- c) Adenosine deaminase
- d) HGPRTase

2 Which of the following is the characteristic feature of Oroticaciduria?

- a) Sideroblastic anaemia
- b) Pernicious anaemia
- b) Megaloblastic anaemia
- c) Iron deficiency anaemia

3 Major type of collagen in basement membrane:

- a) Type II
- b) Type IV
- c) Type III

d) Type I

4 Hyperuricemia is not found in:

- a) Psoriasis
- b) Xanthinuria
- c) Von Gierke's disease
- d) Cancer

5 All of the following are examples of housekeeping genes except:

- a) rRNA genes
- b) RNA polymerase
- c) Beta galactosidase
- d) Ribosomal protein genes

6 All of the techniques listed below measure protein except:

- a) Flame photometry
- b) Electrophoresis
- c) ELISA
- d) Nephelometry

7 Which of the following enzymes is described as a RNA dependent DNA polymerase?

- a) Primase
- b) Reverse Transcriptase
- c) DNA polymerase III
- d) DNA ligase

8 Which one of the following enzyme of heme synthesis is dependent on pyridoxyl phosphate (PLP)?

- a) Ferrochelatase
- b) Protoporphyrinogen oxidase
- b) ALA Synthase
- c) PBG Synthase

9 Which of the following is not an acute phase protein?

- a) Transcortin
- b) Alpha-1 anti-trypsin
- c) Ceruloplasmin
- d) C-reactive protein

10 Bence Jones protein precipitates at:

- a) 40°-60° C
- b) 60°-80° C
- c) 80°-100° C

11 Imidazole ring is present in:

- a) Tryptophan
- b) Proline
- c) Histidine
- d) Arginine

12 Transplacental transfer of maternal IgG antibodies induces

- a) Active artificial immunity
- b) Passive artificial immunity

- c) Passive natural immunity
- d) Active natural immunity

13 All the following enzymes of heme synthesis are located in mitochondria except:

- a) Hydroxymethylbilane synthase
- b) Protoporphyrinogen oxidase
- c) Ferrochelatase
- d) ALA Synthase

14 A 4 week old infant was passing urine which smelled like burnt sugar. Concentration of branched chain amino acids in urine and plasma were found to be very high. What is the probable cause?

- a) Alkaptonuria
- b) Cystuuna
- c) Maple syrup urine disease
- d) Phenylketonuria

15 Presence of carcinoembryonic antigen (CEA) in serum is detected in:

- a) Germ cell tumour of testis
- b) Choriocarcinoma
- c) Colorectal cancer
- d) Hepatoma

16 Substitution of which of the following amino acids in place of alanine would increase the absorbance of proteins at 280 nm?

- a) Arginine

- b) Proline
- c) Tryptophan
- d) Leucine

17 A professional body builder on his physician diet went for routine health check-up. Which of these parameters is expected to be high in blood samples in this case?

- a) Serum uric acid
- b) Serum bilirubin
- c) Serum urea
- d) Serum creatinine

18 An infant came to OPD with complaints of dark urine stained diaper which on exposure becomes darker. Probable diagnosis:

- a) Phenyl alanine hydroxylase deficiency
- b) Hepatic transaminase deficiency
- c) Fumaryl acetoacetate hydrolase deficiency
- d) Homogentisate oxidase deficiency

19 What is the mechanism of Allopurinol in lowering serum uric acid levels?

- a) Non competitive inhibition
- b) Feedback inhibition
- c) Allosteric inhibition
- d) Suicidal inhibition

20 A year old presented to eye OPD with complaint of diminished vision in both eyes. Physical examination showed arachnodactyly, dislocation of lens and hyperextension of joints. Identify the disease and defective protein associated with:

- a) Marfan's syndrome - Fibrillin I protein
- b) Menke's syndrome - Lysyl oxidase
- c) Osteogenesis Imperfecta - Collagen type I
- d) Ehler-Danlos syndrome - Lysyl oxidase

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