

**M.B.B.S. 1<sup>st</sup> professional Annual University Examination****Biochemistry****PAPER-II****Time: 3 Hours****Maximum Marks: 100****Note:**

- ❖ The candidates must limit their answers to the answer book (30 Pages) issued to them. No supplementary/Continuation answer sheet shall be provided
- ❖ Attempt all questions sequentially.
- ❖ Attempt Part-A & Part-B in separate answer books and Part-C in OMR sheet. Illustrate your answers with suitable diagrams, graphs and flow charts.
- ❖ OMR sheets shall be collected 20 minutes after starting of examination.

**SECTION- A****Total Marks-40**

**Q1. Enlist various biochemical investigations for the assessment of following organ functions:**

**4+3+3=10 Marks**

- a) Liver functions
- b) Kidney functions
- c) Cardiac functions

**Q2. Explain Briefly:**

**4x5=20 Marks**

- a) Calcium homeostasis
- b) Role of kidney in the regulation of acid base balance.
- c) Transport of CO<sub>2</sub> by hemoglobin
- d) Thin layer chromatography

**Q3. Write short note on the followings:**

**5x2=10 Marks**

- a) Physiological functions of dietary fiber.
- b) Biochemical Role of Zn
- c) Principle of ELISA
- d) Principle of Electrophoresis.
- e) Tumor Markers in diagnosis and treatment

**SECTION- B****Total Marks-40**

**Q1.** Explain the role of oxidative stress in the pathogenesis of atherosclerosis and diabetes complications. **10 Marks**

**Q2.** Write note on the followings: **4x5=20 Marks**

- a) Universal cloverleaf model of tRNA
- b) Role of T-helper cells in immune responses
- c) Chemoprevention in cancer
- d) Functions of extracellular matrix

**Q3.** Write short note on the followings: **5x2 =10 Marks**

- a) RFLP
- b) Replication fork formation
- c) Codon-anticodon pairing
- d) Charging of tRNA with specific amino acids
- e) PCR applications

**SECTION-C****20x1=20 Marks**

**Q-1:** Which of the following is the first sign of iron deficiency?

- a) Transferrin saturation is low
- b) Serum ferritin is low
- c) Erythrocyte protoporphyrin increases
- d) Fall of Hb below normal

**Q-2:** Endemic Keshan disease (in eastern China) and Kaschnibeck disease (eastern Asia) are caused due to deficiency of which of the followings?

- a) Selenium
- b) Cobalt
- c) Fluoride
- d) Iodine

**Q-3:** Which of the following does not contain sulphur?

- a) Cell membrane
- b) Nucleic acids
- c) Enzymes
- d) Coenzymes

**Q-4:** Which of the following is conjugated protein?

- a) Zein
- b) Albumin
- c) Peptone
- d) Hemoglobin

Q-5: Cholesterol is which of the following

- a) Glycolipid
- b) Phospholipid
- c) Fatty acid
- d) Steroid

Q-6: Which of the following form is naturally found in RNA double stranded molecules and RNA-DNA hybrid molecules?

- a) A-form
- b) B-form
- c) C-form
- d) Z-form

Q-7: A person with extra 21 chromosome is called

- a) Turner's syndrome
- b) Down's syndrome
- c) Edward's syndrome
- d) Patau syndrome

Q-8: Thymidine or pyrimidines dimmers are induced by which of the following mutagen?

- a) Non-ionizing UV radiations
- b) Ionizing UV radiations
- c) Alkylating agents
- d) Base analogues

Q-9: Which of the following disease is caused due defect in recombination repair system?

- a) Xeroderma pigmentatosum
- b) Fanconi's anaemia
- c) Bloom's Syndrome
- d) Cockayne's syndrome

Q-10: Shine-Dalgarno sequence is present in which of the RNA?

- a) tRNA
- b) mRNA
- c) rRNA
- d) snRNA

Q-11: The termination of protein synthesis is catalyzed by

- a) Special type of tRNA that bind at termination codon
- b) A special type of protein released factor that binds at termination codon
- c) By the activity of ribosome itself
- d) By the activity of trailer region of mRNA

Q-12: Transportation of proteins into which of the following cell organelles requires a carrier protein?

- a) Endoplasmic reticulum
- b) Mitochondria
- c) Peroxisome
- d) Chloroplast

Q-13: Which of the following is not a conjugating agent in phase II of detoxification?

- a) Glucuronic acid
- b) Glycine
- c) Glutamic acid
- d) Glutathione



Q-14: Which of the following play role in oxidation of xenobiotics?

- a) Cytochrome P<sub>660</sub>
- b) Cytochrome P<sub>450</sub>
- c) Cytochrome P<sub>448</sub>
- d) Both Cytochrome P<sub>450</sub> and Cytochrome P<sub>448</sub>

Q-15: Which of the following mechanisms does not control GFR?

- a) Renal autoregulation
- b) Neural regulation
- c) Hormonal regulation
- d) Chemical regulation of ions

Q-16: Which of the following is not reabsorbed by renal tubules?

- a) Urea
- b) Bicarbonate ions
- c) Hydrogen ions
- d) Phosphate ions

Q-17: Which of the following is not secreted into the urine via tubular secretion?

- a) Bicarbonate ions
- b) Hydrogen ions
- c) Ammonium ions
- d) Urea

Q-18: The patients of sickle-cell anemia are resistant to

- a) Malaria
- b) Filaria
- c) Dengue
- d) Trypanosomiasis

Q-19: In an acidic environment, O<sub>2</sub> dissociates more readily from hemoglobin is called ?

- a) Haldane effect
- b) Bohr effect
- c) Hemburger phenomenon
- d) None of the above

Q-20: Diphtheria toxin inhibits translation by binding with which of the following

- a) eIF-2
- b) eEF-2
- c) 40S subunit of ribosome
- d) 60S subunit of ribosome