Paper Code-010302

M.B.B.S. 1st 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_2 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 sundrome

Q-10: Shine-Dalgarno sequence is present in which of the RNA?
a) t RNA
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_{660}
b) Cytochrome P_{450}
c) Cytochrome P_{448}
d) Both Cytochrome P_{450} and Cytochrome P_{448}

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_2 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