Madhya Pradesh Medical Science University, Jabalpur

MBBS First Professional Examination Feb-2023

Paper Code- 23AM0000100032

Subject- Biochemistry Paper-II

Time : 3:00 Hours Maximum Marks :100

Instructions:

a) All questions are compulsory

b) Draw diagrams wherever necessary

c) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.

d) MCQ has to be answered in theory answer book

e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:- 1. (a) 2. (b)

f) MCQ has to be answered only once, any kind for repetition or cutting or erasing or whitener will be consider as malpractice,

Such answers will not be counted in the marks and action will be taken according to UFM rules of University

g) Subjective Answer should be answered in up to 30 words per marks. For example if a question having 2 marks answer should be answered in up to 60 works.

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Q.1 Total MCQs : 10 **10x1=10**

1. Opalescent urine is seen in

a. Porphyria

b. Alkaptonuria

c. Chyluria

d. Creatinuria

2. The end product of catabolism of heme is

a. Bile acid

b. Bile salt

c. Bile pigment

d. Uric acid

3. The flow of Genetic information from DNA to RNA to Protein in living cells is

a. Central Dogma

b. Replication

c. Transcription

d. Reverse Transcription

4. DNA Replication in Eukaryotes is

a. Conservative

b. Semi Conservative

c. Dispersive

d. None of these

5. In Lac operon we see-

a. 1 Regulatory Gene & 1 P site

b. 1 Regulatory Gene, 1 Promoter site & 1 Operator

c. 1 Regulatory Gene, 1 Promoter site, 1 Operator & 3 Structural genes

d. 2 Regulatory Gene, 1 Operator & 3 Structural genes

6. UAA, UAG & UGA are

a. Initiating Codons

b. Codons of Lysine

c. Codons of Arginine

d. Nonsense Codons

7. The normal Serum Uric acid is-

a. 8-10 mg %

b. 4-7 mg %

c. 1-3 mg %

d. 2-4 mg %

8. The purification of enzymes is mostly done by

a. affinity chromatography

b. ion-exchange chromatography

c. paper chromatography

d. all the above

9. Which of the vitamins listed has NO anti-oxidant property?

a. Vitamin C

b. Vitamin E

c. Vitamin A

d. Vitamin K

10. Which has no role in calculating caloric requirements?

a. Respiratory quotient

b. Specific dynamic action

c. Nature of work

d. Basal metabolic rate

Q.2 Long Answer Questions **2X20=40**

a. How heme is synthesized in the body. Add a note on Various porphyrias.

b. A patient with chronic renal failure was found to have the following laboratory findings: serum creatinine 3mg/dl, serum sodium 120 mmol/l, serum potassium 5.8 mmol/l, serum bicarbonate 15 mmol/l.

i. What type of acid base disturbance is likely to be present in this case? (2MK)

ii. How does the kidney normally regulate extracellular pH ? (6 MK)

iii. What are the additional investigations to be done in this patient? (3MK)

iv. Explain the basis of abnormal electrolyte values. (5MK)

v. Explain anion gap. (4MK)

Q.3 Brief Answer Questions **6X05=30**

a. KFT

b. Explain the biochemical tests which will help in differentiating the types of jaundice.

c. Importance and applications of recombinant DNA technology.

d. Give an account of the water distribution and its balance in the body.

e. Explain regulation of genes by repression with examples.

f. Mutations

Q.4 Write Short note on Each of the Following. **10X02=20**

a. What is the principle of adsorption chromatography?

b. Beer and Lambert law.

c. Biochemical alterations in protein energy malnutrition.

d. Wobble hypothesis

e. Gene therapy

f. Molecular basis of thalassemia & Cystic fibrosis.

g. Functions of nucleotides

h. Tumor markers

i. Name the pre-renal conditions that cause increased blood urea.

j. Give two examples of purine analogues, used as anti-cancer drugs.

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