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RUHS

First Year MBBS Examination

I MBBS BIOCHEMISTRY PAPER I

Time: 3 hours

Max Marks: 100

Date: 27-01-2023

Instructions: INSTRUCTIONS: Attempt all questions in both sections: (Use separate answer book for each section)

Section 1

1. Fill in the blank (6)

a. Most common type of phase-II reactions in xenobiotics metabolism is _____

b. Formula for calculation of eGFR in males is _____

c. Maternal immunoglobulin providing immunity to foetus is _____

d. Enzyme used for conversion of RNA into DNA is _____

e. Protein helping in correct spatial arrangement of nascent polypeptide chain _____

f. Water soluble vitamin with antioxidant properties is _____

2. Choose the correct option in the following multiple choice questions: (4)

a. Which of the following has high calorific value:
   a. Glucose

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b. Palmitic acid
c. Albumin
d. Ethanol

b. All are true regarding genetic code except:
   a. Ambiguous
   b. Degenerate
   c. Non- overlapping
   d. Universal

c. Enzyme playing role in prevention of aging:
   a. DNA polymerase
   b. Topoisomerase
   c. Deoxyribonuclease
   d. Telomerase

d. Which of the following process make use of free radical effect:
   a. Cell adhesion
   b. Phagocytosis
   c. Contact inhibition
   d. Transcytosis

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3. A 30 year old woman presented to OPD with jaundice. Her serum alkaline phosphatase levels found to be ten times higher than reference range.

a. What is the probable diagnosis? (15)
b. What are the different liver enzymes used to diagnose the liver disease?
c. Which type of bilirubin is high in this patient?
d. What are the different markers used to assess the synthetic functions of liver?
e. What are the urine and stool findings in this condition?

4. Write short notes on: (10)

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a. Plasmid.
b. Properties of genetic code.
c. IgA
d. Useful effects of reactive oxygen species.
e. Applications of RFLP.

5. Explain briefly (Any three): (15)

a. Western blotting.
b. Antioxidant vitamins.
c. Antibiotics inhibiting translation.
d. Creatinine clearance better than urea clearance.

Section 2

6. Give an account of polymerase chain reaction with its different steps. Write five applications of the technique in medicine. (20)

7. Explain Why: (10)

a. Deficiency of vitamin C causes bleeding gums.
b. Mitochondrial DNA is more prone to mutations.
c. High blood ammonia levels are toxic to body.
d. Pyrimidine catabolic products are non-hazardous.
e. Post transcriptional modifications are required. (A.557)

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8. Explain briefly (Any four): (20)

a. Restriction endonuclease.
b. Monoclonal antibodies.
c. Catalase.
d. Basal metabolic rate.
e. Replication bubble.

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