



MBBS FIRST PROFESSIONAL EXAMINATION, 2021

BIOCHEMISTRY

Paper II

Time Allowed: Three Hours

Maximum Marks- 100

Note:- Attempt all questions. All part of a question should be answered together. Figures in parenthesis indicate marks allotted to a question.

Section-A

Q1. Describe the process of transcription in prokaryotes. Add a note on inhibitors of transcription with their clinical significance. (20)

Q2. a) What do you understand by innate immunity? Write about various components of innate immunity. (2x10)

b) A 25-year-old college student developed low grade fever with loss of appetite, nausea, vomiting and pain in right hypochondrium region. She also had complaint of dark colour urine. History of having fast food items from outside present. On general physical examination sclera was normal, no yellowish discoloration of skin was observed. Liver was just palpable and tender.

Laboratory findings:

Test	Result	Reference Range
Total Bilirubin	2.0	0.2 - 1.0 mg/dl
Conjugated Bilirubin	0.3	0.0 - 0.3 mg/dl
AST/SGOT ✓	400	0 - 40 IU/L
ALT/SGPT ✓	500	<45 IU/L
ALP ✓	150	<240 IU/L

- Based on given history, general physical examination and laboratory findings what will be your diagnosis?
- What additional investigations can be done in this case?
- Enumerate the name of different fractions of bilirubin. ✓
- Name the test done for serum bilirubin estimation? ✓
- Yellowish discoloration of skin and sclera is visible at what cut off level of total bilirubin among adults

75% 80%  
15% 97%  
0.4  
0.003%

Q3. Multiple Choice Questions: (10x1)

- Erythromycin acts on ribosomes and inhibit:
  - Formation of initiation complex
  - Binding of aminoacyl tRNA
  - Peptidyl transferase activity
  - Translocation of peptide chain
- Ataxia-telangiectasia is caused due to defect in:
  - Double strand DNA break repair
  - Base excision repair
  - Nucleotide excision repair
  - Mismatch repair



3. A fatty acid which is not synthesized in human body and has to be supplied in the diet is:
- Palmitic acid
  - Oleic acid
  - ☒ Linoleic acid
  - Stearic acid
4. All the following lipases are involved in the digestion of fat in the G.I.T except:
- Pancreatic lipase
  - Gastric lipase
  - ☒ Lipoprotein lipase
  - Intestinal lipase
5. Bile salts act as activator of which enzyme?
- Pepsinogen
  - Trypsinogen
  - ☒ Lipase
  - Pancreatic amylase
6. Second messenger that mobilize intra cellular Calcium is:
- Phosphatidic acid
  - Diacylglycerol
  - ☒ Inositol triphosphate
  - c-GMP
7. The glycosidic linkage seen in maltose is:
- ☒ Alpha 1-4 linkage
  - Beta 1-4 linkage
  - Alpha 1-2 linkage
  - Alpha 1-6 linkage
8. The head group (nitrogenous base) present in lecithin is:
- ☒ Choline
  - Ethanolamine
  - Serine
  - Sphingosine
9. The iron deficiency causes which one of the following anaemia:
- Megaloblastic
  - Normocytic
  - ☒ Microcytic
  - Pernicious
10. Name the amino-acid that disrupts the alpha-helical structure of protein by interfering in the process of free rotation and helix folding. Such amino-acids are sometimes called alpha-helix breaker:
- Alanine
  - Leucine
  - Tryptophan
  - ☒ Proline

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