

Sample Test MPhil Biochemistry/Molecular Biology
Quaid-i-Azam University

Marks (Entry test: 40 & Interview: 10)

Total marks: 50

Instructions for the Test

- Switch off your mobile phones and put inside the pockets/bags.
 - Put CNIC and Roll number slip outside for checking and verification. Candidates without any proof of identity will not be allowed to sit in the test.
 - Use of lead pencil and red pen is not allowed.
 - No marks will be given for cutting/overwriting/using whitener/remover.
 - Talking/looking around is strictly prohibited and will lead to cancellation of the paper.
 - Interview will be conducted for the shortlisted candidates qualifying the entry test.
- Candidates can call Biochemistry office at 051-90643169, two weeks after the test to inquire about final result.

Sample Test

Total Time: 40 minutes

Fill the correct choice on bubble sheet. Each question carries one mark. (Total 40 questions. 50% marks are necessary for qualification)

- 1) Which one of the following is a major source of carbon for the one-carbon-pool?
(A) Tyrosine (B) Threonine (C) Serine (D) Proline (E) Glutamic acid
- 2) What is the precursor for fatty acid synthesis?
(A) Acetyl CoA (B) Succinyl CoA (C) Propionyl CoA (D) Acetoacetyl CoA
- 3) The concentration of hydrogen ions in a solution is expressed as the pH, which is numerically equivalent to:
(A) $\log [H^+]$ (B) $-\log [H^+]$ (C) $\ln [H^+]$ (D) $-\ln [H^+]$ (E) $1/\log [H^+]$
- 4) Pathogen associated molecular patterns (PAMPs) are recognized by Toll-like receptors (TLRs). Which one of the followings is a PAMP?
(A) C4 complement (B) Histones (C) Lipopolysaccharide (D) all
- 5) A potent inhibitor of protein synthesis that acts as an analogue of aminoacyl-tRNA is:
(A) Mitomycin C (B) Streptomycin (C) Nalidixic acid (D) Rifampicin (E) Puromycin
- 6) In contrast eukaryotic mRNA, prokaryotic mRNA, prokaryotic mRNA:
(A) can be polycistronic (B) has a poly A tail (C) is synthesized with introns
(D) requires splicing enzyme (E) has 7-methylguanosine at the 5' end
- 7) Which one of the following contributes nitrogen atoms to both purine and pyrimidine rings?
(A) Aspartate (B) Carbamoyl phosphate (C) Carbon dioxide (D) Glutamine (E) Tetrahydrofolate
- 8) Which of the following would be an effective approach to a new cancer therapy?
(A) finding a way to stabilize p53 specifically in tumor cells
(B) preventing nucleotide synthesis in tumor cells
(C) inactivating the HER2 receptor on tumor cells
(D) All of the above would help to fight cancer
- 9) p53 performs its function in:
(A) Nucleolus (B) Cytoplasm (C) Nucleus (D) Plasma membrane
- 10) If a prokaryote has 0.5Mb genome, than how much DNA will be copied by a replication fork?
(A) 0.5Mb (B) 0.45Mb (C) 0.25Mb (D) 0.125 Mb (E) None of these