187 SEAT No._____ No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY
M.Sc. (II-SEMESTER) Examination
THURSDAY, 28th March, 2019
2:00 to 5:00 pm
M.Sc. Biotechnology
PS02EBIT24: MEDICAL BIOCHEMISTRY

PS02EBIT24

TOTAL MARKS: 70

Q.1 Tick mark / select the correct answer for the following. (*Only correct option against given question number needs to be written in provided answer book*) **(08 Marks)**

1. Which vitamin is required for synthesis of the blood clotting proteins?
   a. Vitamin A
   b. Vitamin K
   c. Vitamin D
   d. Vitamin E

2. Elevation in serum lactate dehydrogenase activity is seen in:
   a. Cardiac disease
   b. Renal necrosis
   c. Muscle disease
   d. All of the above

3. Which immune marker is present during the window period of HIV infection?
   a. Antibody to gp41
   b. Antibody to gp120
   c. p17 antigen
   d. p24 antigen

4. One of the following cell type is responsible for the secretion of Hcl from stomach:
   a. Chief cell
   b. Parietal cell
   c. Oxyntic cells
   d. None of these

5. An optimal blood pressure level is a reading under:
   a. 80/120 mm Hg
   b. 120/80 mm Hg
   c. 80/60 mm Hg
   d. 140/90 mm Hg

6. Which of the following is considered as glycosylated hemoglobin
   a. HbA1c
   b. HbA2
   c. HbF
   d. HbS

7. One of the symptoms of cholera is:
   a. Eye infection
   b. Hypertension
   c. Diarrhea
   d. Deafness

8. Which of the following is present in the cell wall of Mycobacterium renders the acid fast characteristic:
   a. Mycolic acid
   b. Murein
   c. Lipoarabino mannan
   d. Lipo techoic acid

(P.T.O)

Q.2 Answer **any seven** from the following: **14**

a) State the importance of Vitamin A in vision.
b) Briefly explain serum enzyme used in GI tract diseases with the clinical importance.
c) Write down the causes of hyperphosphatemia.
d) Categorize water soluble and fat-soluble vitamins. Discuss the dietary source and clinical importance of vitamin D
e) Briefly describe the disorders of sleep.
f) What are opportunistic microorganisms? Name any three of them.
g) List the various thyroid function tests used for the diagnosis of thyroid disorders.
h) Describe any four modes of transmission of infection.
i) What is the role of virus in oncogenesis.

Q.3 **(A)** State the physiological significance of calcium. Discuss the various factors responsible for regulation of calcium level. **6**

(B) What are cardiac biomarkers? Describe the site, normal values and clinical feature of different markers used during acute myocardial infarction. **6**

OR

(B) Explain the term, 'isoenzyme'. Citing suitable examples describe the isoenzymes of any one enzyme, which holds significance in medical biochemistry. **6**

Q.4 **(A)** Write a short note on 'Jaundice and its types'. **6**

(B) Discuss the mechanism of formation of bilirubin pigment from hemoglobin. How bilirubin gets conjugated in liver. **6**

OR

(B) Classify the various kidney function tests. Describe urea clearance test in detail. **6**

Q.5 **(A)** Describe the mechanism involved in development of different stages of atherosclerosis and add a note on any two risk factors. **6**

(B) Enlist various neurological disorders and discuss the different types of epilepsy and its mechanism in detail. **6**

OR

(B) What is carcinogenesis? Explain the role of various oncogenes and tumor suppressor gene in development of cancer. **6**

Q.6 **(A)** Discuss transmission and pathogenesis of pulmonary tuberculosis. **6**

(B) Describe the pathogenesis of cholera with special reference to genetic organization and regulation of virulence factors in *vibrio cholerae* **6**

OR

(B) Enlist host microbes interactions and explain any two interactions in human host **6**

—X—

(2)