

**T. Y. B. Sc. (Biotechnology) SEM – V (CBCS - 2015 COURSE) :**

**WINTER - 2018**

**Subject: Clinical Biotechnology**

Day: Wednesday

Date: 24/10/2018

**W-2018-1183**

Time: 10.00 AM TO 01.00 PM

Max. Marks: 60

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**N.B.:**

- 1) Q1 and Q5 are compulsory.
  - 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
  - 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
  - 4) Answers to Both the sections to be written in SEPARATE answer books.
  - 5) Draw a labeled diagram WHEREVER necessary.
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**SECTION - 01**

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) What is the role of vitamin K in blood clotting?
- b) List the steps involved in obtaining the lab tests.
- c) What do you mean by total and differential count?
- d) What is the role of prothrombin activator in blood clotting?
- e) Give full forms of SGOT and SGPT.
- f) State the Friedewald equation for estimation of LDL-cholesterol.

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Explain the structure and functions of kidney.
- b) Define anticoagulants. Explain the specific mode of action and test for any four anticoagulants.

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Discuss the major components of blood clotting.
- b) Describe the various functions of different lipoproteins.

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) Neonatal jaundice
- b) Clinical significance of lipid profile

**SECTION - 02**

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Define isoenzymes. Give one example.
- b) Which information is received from enzymes measurements in serum?
- c) What are the diagnostic criteria for diabetes?
- d) Which are the chief intracellular and extracellular fluid ions?
- e) Define ketoacidosis.
- f) What are the requirements for red blood cell production, give 4 names.

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) What is conjugated bilirubin? Explain any two types of jaundice in detail.
- b) Explain radiation hazard in detail.

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Describe the diagnostic enzymes in heart diseases.
- b) Describe the structure of hemoglobin and any one diagnostic method.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Sickle cell anemia
- b) Glucose tolerance test

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