

**T. Y. B. SC. (BIOTECHNOLOGY) SEM – VI (2010 COURSE) :  
WINTER - 2017**

**SUBJECT: CLINICAL BIOTECHNOLOGY**

Day: **Thursday**  
Date: **09/11/2017**

Time: **10.00 AM TO 01.00 PM**  
Max Marks: 80

**W-2017-0964**

**N.B:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

**SECTION-I**

**Q.1 A) Answer any ONE of the following: (06)**

- i) Define 'Anemia'. Explain the causes, symptoms and treatment of any two types of Anemia.
- ii) Explain the metabolism of RBC in human body. Describe briefly the various types of jaundice.

**B) Answer any TWO of the following: (10)**

- i) Describe the role of SGOT and SGPT in clinical diagnosis.
- ii) Explain the mechanism of blood clotting.
- iii) Discuss Lipid Profile Testing and its clinical significance.

**Q.2 Write short notes on any FOUR of the following: (16)**

- i) Erythrocyte Sedimentation Rate (ESR)
- ii) Glycosylated Hemoglobin
- iii) Hemogram
- iv) Use of anticoagulants in sample preparation
- v) Prothrombin Time

**SECTION-II**

**Q.3 A) Answer any ONE of the following: (06)**

- i) Give an account of different classes of Antibodies, their structures and functions.
- ii) Explain different modifications of Precipitation reactions and discuss their applications.

**B) Answer any TWO of the following: (10)**

- i) Describe the structure and functions of Thymus/ Spleen/ Lymph node.
- ii) Elaborate on Cytokines.
- iii) Discuss the role of MHC- II molecules in immune response.

**Q.4 Write short notes on any FOUR of the following: (16)**

- i) Monoclonal Antibodies
- ii) Granulocytes
- iii) ELISA
- iv) Western Blotting technique
- v) Opsonization

**P.T.O**

**Q.5**

Attempt any **EIGHT** of the following:

**(16)**

- i)** Define – Isoenzymes.
- ii)** Enlist various tests employed in Urine Analysis.
- iii)** What is the difference between Plasma and Serum?
- iv)** Give the various functions of Liver.
- v)** Differentiate between Intrinsic and Extrinsic pathways of Blood clotting.
- vi)** Name any four barriers of Innate Immune Response.
- vii)** State the location and function of Peyer's patches.
- viii)** Give two examples of Naturally Passively Acquired Immunity.
- ix)** Define – Haptens and Precipitation reaction.

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