

**T. Y. B. Sc. (Biotechnology) SEM – VI (2010 COURSE) : WINTER -
2018**

SUBJECT: CLINICAL BIOTECHNOLOGY

Day: Thursday
Date: 25/10/2018

W-2018-1203

Time: 10.00 AM TO 01.00 PM
Max Marks: 80

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 Anticoagulants. Explain the specific mode of action and tests for any four anticoagulants.
- ii) Explain the structure of Hemoglobin, its types and methods of determination.

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

- i) Discuss the essential components in blood clotting and their role in blood clotting process.
- ii) List the functions of kidney. Describe the constituents of urine and their diagnostic significance.
- iii) Explain Iron deficiency anemia and Sickle cell anemia.

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

- i) Enzymes in Liver Function Tests
- ii) Clotting time.
- iii) Composition & functions of blood.
- iv) Clinical significance of Lipid Profile.
- v) Matching and Cross matching of blood.

SECTION-II

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

- i) With the help of a well labelled diagram, describe the structures of IgG and IgA.
- ii) Discuss the Endogenous and Exogenous pathways for Antigen Processing and Presentation.

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

- i) Discuss the factors contributing to the immunogenicity of an antigen.
- ii) Explain the general features of Cytokines.
- iii) Describe Antigen Antibody interactions.

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

- i) Phagocytosis
- ii) Rocket Immuno-electrophoresis
- iii) Neutrophils
- iv) Radial Immuno-diffusion
- v) Peyer's patches

Q.5

Attempt any **EIGHT** of the following:

(16)

- i)** Name the various biological samples used in clinical diagnosis.
- ii)** Explain the term - Clinical Biotechnology
- iii)** Define – Polycythemia and Thrombocytosis.
- iv)** What is the role of Vitamin K in blood clotting?
- v)** What are Zymogens?
- vi)** Name any two Antigen Presenting Cells.
- vii)** Distinguish between Innate and Adaptive Immune Response.
- viii)** Define - Adjuvants and Epitopes.
- ix)** Give any two examples of Artificially Actively Acquired Immunity.

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