

**M. SC. (MEDICAL BIOTECHNOLOGY) SEM-III (CHOICE
BASED CREDIT SYSTEM) : WINTER - 2017**

SUBJECT : VACCINES, ANTIBIOTICS & THERAPEUTICS

Day : Wednesday
Date : 08/11/2017

W-2017-1056

Time : 10.00 AM TO 01.00 PM
Max. Marks : 60

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Draw neat and labeled diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** a) Briefly explain the following terms with respect to chemotherapeutic agents [05]
with suitable examples:
i) Semi-synthetic
ii) Natural and synthetic
iii) Broad spectrum and narrow spectrum
iv) Cidal and static
- b) Elaborate manufacturing procedure and in-process control of traditional viral vaccines. [05]
- Q.2** Explain in brief: [10]
a) Concept of bioassay and therapeutic index.
b) Action of chemotherapeutic agents on cell membrane.
c) Recombinant peptide vaccines.
d) Importance of vaccinia virus.
- Q.3** Explain in detail: [10]
a) Different factors contributing to multiple drug resistance in bacteria.
b) Vaccines for HIV and cancer.
- Q.4** Elaborate: [10]
a) Antiviral drugs
b) Different types of vaccines, limitations of traditional vaccines and role of recombinant DNA technology.

SECTION – II

- Q.5** Explain in brief: [10]
a) LAL test c) Interleukins
b) Human insulin d) Protein based contaminants in pharmaceutical products
- Q.6** Explain in detail: [10]
a) Yeast and fungi as production system for recombinant proteins.
b) GMP in pharmaceutical industry.
- Q.7** Write short notes on the following: [10]
a) Different phytochemical extraction methods
b) Asperaginase
c) Sterility testing of antibiotics and disinfectants
d) Apyrogenation methods
- Q.8** Explain in detail: [10]
a) Advance techniques in recombinant monoclonal antibody production.
b) Immunological approaches to detect contaminants.

* * * *