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

SUBJECT : VACCINES, ANTIBIOTICS & THERAPEUTICS

Day : **Wednesday** Time : **10.00 AM TO 01.00 PM**
Date : **08/11/2017** **W-2017-1056** 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 with suitable examples: **[05]**
- **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
- **b)** Human insulin
- **c)** Interleukins
- **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.

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