

M. Sc. (Biotechnology) Sem-IV (2012 Course)(Choice Based Credit System) : WINTER - 2018

SUBJECT : Specialization : c) PHARMACEUTICAL & MEDICAL MICROBIOLOGY

Day : Tuesday **W-2018-1216** Time : 02.00 PM TO 05.00 PM
Date : 23/10/2018 Max. Marks : 60

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** from Q.No. 2, 3, 4 and **ANY TWO** from Q.No. 6, 7, 8.
- 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** Answer **ANY FIVE** of the following: [10]
- a) Name the causative agent of candidiasis and describe the control measures of candidiasis.
 - b) Comment on the pathogenesis of amoebiasis as a parasitic disease.
 - c) Briefly explain treatment of tuberculosis.
 - d) What is candidate gene cloning?
 - e) Briefly explain the principle of E-test used for antibiotic susceptibility testing.
 - f) What is the mechanism of action of streptomycin?
- Q.2** Explain in detail: [10]
- a) Causative agent, pathogenesis, treatment and laboratory diagnosis of cholera.
 - b) Mechanism of action of beta-lactam antibiotics.
- Q.3** Answer the following: [10]
- a) What is functional cloning? Explain with example.
 - b) What is i) therapeutic index ii) therapeutic dose, iii) selective toxicity, iv) MIC and v) MLC of chemotherapeutic agents?
- Q.4** Write short notes on: [10]
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|---------------------------------|---------------------------------|
| a) Gain of function mutations | d) H Ag and Vi Ag of salmonella |
| b) Biofilms and drug resistance | e) Public health measures |
| c) Recovery of streptomycin | |

SECTION – II

- Q.5** Answer **ANY FIVE** of the following: [10]
- a) What is “GMP”?
 - b) Enlist four advantages of vaccination.
 - c) Enlist the vectors used for gene therapy.
 - d) What is the function of adjuvant?
 - e) What are vector vaccines?
 - f) What is depyrogenation? Enlist four methods for the same.
- Q.6** Explain in detail: [10]
- a) Manufacturing procedure and in-process control of traditional bacterial vaccines.
 - b) Advantages of recombinant vaccines. Explain with the help of peptide vaccines.
- Q.7** Answer the following: [10]
- a) What is sterility testing of pharmaceutical products? Explain different methods for sterility testing.
 - b) What are the applications of gene therapy? Explain with suitable examples.
- Q.8** Write short notes on: [10]
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| a) Neutraceuticals | d) Antisense technology |
| b) Recombinant insulin | e) Development in AIDS vaccine |
| c) LAL test | |

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