	Utech
Name :	
Roll No. :	The Parameter of Constrainty and Excellent
Invigilator's Signature :	

CS/B.PHER (N)/SEM-5/PT-509/2012-13

2012

PHARMACEUTICAL MICROBIOLOGY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

GROUP – A (Multiple Choice Type Questions)

- 1. Choose the correct alternatives for any *ten* of the following : $10 \times 1 = 10$
 - i) Mycolic acid is found in the cell walls of
 - a) Gram negative bacteria
 - b) M. tuberculosis
 - c) M. Leprae
 - d) Both (b) & (c).
 - ii) Which of the following is not necessary in the culture media ?
 - a) Source of carbon b) Source of nitrogen
 - c) Agar d) None of these.
 - iii) The rapid growth phase of bacteria is known as
 - a) lag phase b) exponential phase
 - c) generation phase d) stationary phase.

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- iv) The fungal all wall is not sensitive to penicillin because it does not contain
 - a) chitin b) cholesterol
 - c) techoic acid d) peptidoglycan.
- v) Treponema pallidum is an example of
 - a) Rickettsiae b) Spirochete
 - c) Actinomycetes d) Virus
- vi) Which organism is used as standard in sterility testing by filtration ?
 - a) T. pallidum b) E. histolytica
 - c) *P. diminuta* d) None of these.
- vii) Staphylococci are morphologically arranged in
 - chains b) bunch of grapes
 - c) pairs d) single cell.
- viii) Spirochete bacteria

a)

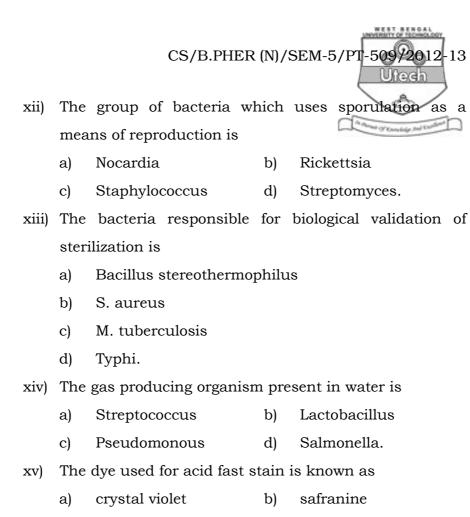
a)

- peritrichous b) amphitrichous
- c) periplasmic d) lophotrichous flagella.
- ix) R. W. Co-efficient test is used for evaluation of
 - a) antibiotic activity
 - b) sterility of packaging material
 - c) nature of organism in bacterial infection
 - d) bacterial activity
- x) E coli is used for the microbial assay of
 - a) Rifampicin b) Chloramphenicol
 - c) Niacin d) Cyanocobalamin.
- xi) N-acetylglucosamine & N-acetyl muraminic are the fundamental building blacks for
 - a) capsule b) peptidoglycan
 - c) outer membrane d) ribosomes.

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carbol faschin d) none of these. c)

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

- 2. Sterilization by gamma radiation.
- 3. Water analysis by microbiological methods.
- 4. Important differences between structural features of bacteria and virus.
- 5. Primary and secondary immunity.
- 6. LAL Test.

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GROUP – C

(Long Answer Type Questions

Answer any *three* of the following. $3 \times 15 = 45$

- 7. Write about physical & chemical requirements for the growth of bacteria. Draw a typical growth curve of bacteria and explain its phases .
 9 + 6
- 8. What is microbiological assay ? Write the principles of microbiological assay of
 - a) antibioties
 - b) vitamins.

Briefly explain the microbiological assay method of niacin (niacinamide). 1 + 6 + 3 + 5

9. Write short note on any *three* of the following : 3×5

- a) Fluoreseence Microscopy
- b) Transmission electron microscopy
- c) Dark-field Microscopy
- d) Bridght-field Microscopy.
- Describe survivor curve of a sterilization process. Discuss different procedure for validation of sterilization. 5 + 10
- 11. Discuss morphology, biochemical character, pathogenecity, diagnosis and treatment of *Salmonella typhi*.

12. a) Write a short note about the role of a complement system in host-defence mechanism. 10

- b) Differentiate the following : 5
 - i) Cellular & Humaral Immunity.
 - ii) T-lymphocytes & B-lymphocytes.

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