



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Pharm (OLD)/SEM-5/PT-509/2010-11**

**2010-11**

**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 × 1 = 10

i) A virus can have

a) double stranded RNA    b) single stranded DNA

c) both (a) & (b) together    d) either (a) or (b).

ii) Which of the following conditions may be applied to achieve sterilization by dry heat ?

a) 160° C for 2 hours

b) 170° C for 60 minutes

c) 180° C for 30 minutes

d) any of the conditions (a), (b) or (c).

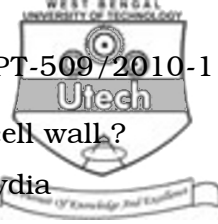
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- iii) Which of the following media is recommended for sterility testing ?
- Nutrient broth
  - Soybean casein digest broth
  - Sabouraud's dextrose agar
  - McConkey agar.
- iv) The test organism for Niacin assay is
- Lactobacillus leichmannii*
  - Lactobacillus arabinosus*
  - Lactobacillus plantarum*
  - Lactobacillus casei*.
- v) The causative organism for plague is
- Yersinia pestis*
  - Yersinia pseudotuberculosis*
  - Yersinia enterocolitica*
  - none of these.
- vi) Feulgen procedure is done in
- Flagella staining
  - Capsule staining
  - Endospore staining
  - DNA staining.
- vii) ATCC stands for
- American Type Culture Collection
  - American Type Culture Centre
  - American Taxonomic Culture Centre
  - American Taxon Collection Centre.
- viii) In the disc diffusion assay, if the media thickness is increased, the zone of inhibition will
- decrease
  - increase
  - remain the same
  - none of these.



- ix) Which micro-organism does not have a cell wall?
  - a) Ricketts
  - b) Chlamydia
  - c) Spirochete
  - d) Mycoplasma.
- x) In conjugation gene transfer takes place through
  - a) pilli
  - b) bacterial prophage
  - c) bacterial lytic phage
  - d) none of these.
- xi) In microbiological assays the test organism should be used in its
  - a) lag phase
  - b) log phase
  - c) static phase
  - d) decline phase.
- xii) The mode of nutrition in protozoa is
  - a) ingestion
  - b) absorption
  - c) photosynthesis
  - d) none of these.

**GROUP – B**

**( Short Answer Type Questions )**

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

- 2. What are the special requirements for sterility testing of products containing antimicrobial agent ?
- 3. Explain in bacteria swim under the influence of its environment.
- 4. Compare fungal cultivation with bacterial cultivation.
- 5. What is the aim of significance of R.W.C. test ? How is R.W.C. calculated ?       $3 + 2$
- 6. Write about the morphological types of bacteriophage.

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**GROUP – C**

**( Long Answer Type Questions )**

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

7. Explain growth of bacteria with proper growth curve. How is the growth affected on manipulating the physical environment ?  $5 + 3 + 7$
8. Define disinfectant and antiseptic. Give characteristics of an ideal disinfectant. Also give the factors affecting the process of disinfection.  $2 + 5 + 8$
9. How can you isolate one particular bacterial species in a pure culture from a natural microbial population ?
10. Write about the diagnosis, pathogenicity, treatment of staphylococcal & *E.coli* infection.  $7\frac{1}{2} + 7\frac{1}{2}$
11. Describe an antibiotic assay by disc diffusion assay by indicating the points principle, requirements, procedure & calculate.

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