

PARUL UNIVERSITY
FACULTY OF PHARMACY
Pharm.D Supplementary Examination, November - 2017

Year: 2**Subject Code: 08207202****Subject Name: Pharmaceutical Microbiology****Date: 13/11/2017****Time: 10:00 am to 1:00 pm****Total Marks: 70****Instructions**

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Mark Each) (30)

1. Define sterilization. List down various methods of sterilization and draw a well labelled diagram of Autoclave. Explain in detail the chemical methods of sterilization.
2. What is isolation & preservation of microbial cultures? Discuss in detail various methods for Isolation and Preservation of microbial cultures.
3. Give the principle of microbial assay of antibiotics and discuss in detail the assay methods for antibiotics. Define Minimum inhibitory concentration and write in detail the methods used for its determination.

Q.2 Short Essay Type Questions. (any 4 out of 5) (5 Mark Each) (20)

1. What is staining? Enumerate various staining reactions. Discuss in detail any one method of differential staining.
2. Write briefly about antigen, antibody, haptens, interferons and natural killer cells.
3. Give the principle of ELISA. Give advantages & disadvantages of this technique.
4. Give the life cycle of Malarial parasite. Write about the treatments available for Malaria.
5. Enlist various methods for evaluation of disinfectants and discuss any three in detail.

Q.3 Short Answers. (2 Mark Each) (20)

1. Write any four differences between prokaryotic and eukaryotic cell.
2. Differentiate between Dark-field microscopy and phase contrast microscopy.
3. Draw a neat and labelled diagram of a bacterial cell.
4. Differentiate between differential media & enriched media.
5. What is phagocytosis? Explain with diagram.
6. Give the name of test organism used for following microbiological assay of (i) Penicillin (ii) Vitamin B₁₂.
7. Give the preferred method of sterilization for following products with reason:
(i) Sterile water for injection (ii) Ampoules and vials
8. Enlist any 4 factors affecting disinfection process.
9. Enumerate various direct methods for counting of bacteria.
10. Give any four differences between Gram positive and Gram negative bacteria.