

**UKA TARSADIA UNIVERSITY**  
Maliba Pharmacy College  
B. Pharm 3<sup>rd</sup> Semester Internal Examination 2013 [Mid-Sem 1]  
**030020302- PHARMACEUTICAL MICROBIOLOGY**

Time: 1:30 to 3:30 P.M.

**Max. Marks: 40****Date: 31/08/2013****Instructions:**

- Attempt any **FIVE** questions.
- Each question carries **08** marks.
- Make suitable assumption whenever necessary.
- Figures to the right indicate full marks.

- Q.1 A) Define microbiology. Write a note on the scope of microbiology. 4  
B) Differentiate between prokaryotic and eukaryotic cells. 2  
C) What is the difference between flagella and pili in terms of their morphological features and functions? 2
- Q.2 A) Define resolving power and magnification. How does an electron microscope differ from optical microscopes? State the principle of SEM and TEM. Enumerate the limitations of electron microscopy. 4  
B) What do you understand by differential staining? Explain the mechanism and procedure of Gram staining. 4
- Q.3 A) Discuss different methods for taxonomical classification of microorganisms. 4  
B) Write a detailed note on bacterial flagella. 4
- Q.4 A) Write a note on fungi highlighting their ecological importance. 4  
B) Differentiate between endospores and exospores. How do spores differ from cysts? Explain the relevance of such structures in the life cycle of microorganisms. 4
- Q.5 A) Write a detailed note on spirochetes. 4  
B) Explain the terms phototrophs, chemotrophs, autotrophs and heterotrophs. How can organisms be classified on the basis of their oxygen requirements? 4
- Q.6 A) Describe various methods for measuring the growth of microorganisms. 4  
B) What do you understand by culture media? Discuss the classification of culture media on the basis of their functional type. Give appropriate examples. 4
- Q.7 A) Discuss the phases in growth of microorganisms under a batch culture system. 4  
B) Write a note on continuous cultivation of bacteria. 4