

Total No. of Questions : 06

M.Pharmacy (Pharmacognosy) (2017 & Onwards) (Sem.-1)
MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES
Subject Code : MPG-101T
M.Code : 74669

Time : 3 Hrs.

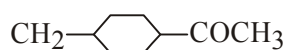
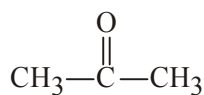
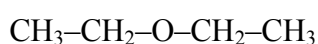
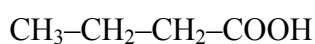
Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of SIX questions.
2. Each question carries EQUAL marks.

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|----|--|-----|
| 1. | a) Enumerate basic principle of mass spectroscopy. How would you recognize a molecular ion peak? | 10 |
| | b) Explain metastable ions, base peak and isotope peaks. | 5 |
| 2. | a) Explain Dispersive and Fourier transform IR spectrometers with suitable diagram. | 7.5 |
| | b) Write the applications of IR spectroscopy | 7.5 |
| 3. | Discuss the following : | |
| | a) Principle of proton NMR spectroscopy and explain chemical shift. | 8 |
| | b) Pascal triangle | 2 |
| | c) Factors influencing chemical shift | 5 |
| 4. | a) Draw a neat diagram of HPLC and explain the principle involved and its working. | 10 |
| | b) Describe ion exchange chromatography with suitable examples. | 5 |
| 5. | Write notes on following (Any THREE) : | |
| | a) Gel electrophoresis | 5 |
| | b) Paper electrophoresis | 5 |
| | c) X-ray diffraction methods and its application | 5 |
| | d) DTA and its application | 5 |

6. a) Enlist the different ionization techniques in MS and describe electron impact mode 6
b) Briefly outline of ^{13}C NMR. 4
c) Discuss briefly paper chromatography. 3
d) Find out the number of proton environments in the following compounds? 2



NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.