

Code: 17S01101

M.Pharm I Semester Regular & Supplementary Examinations January/February 2019

**MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES**

(Common to IP, PT, PA&QA, PA&QC, PA, PC, Pharmaceutics, Pharmacognosy and Pharmacology)

(For students admitted in 2017 & 2018 only)

Time: 3 hours

Max. Marks: 60

Answer all the questions

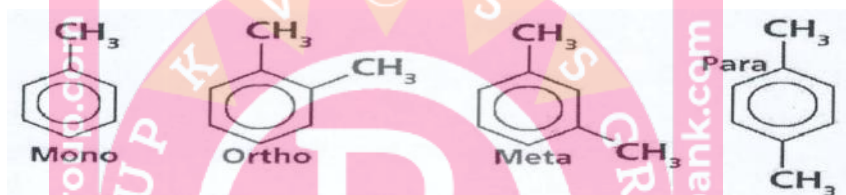
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- 1 Explain about working and construction of double UV / VIS spectroscopy and explain about solvent effect in UV spectroscopy.

OR

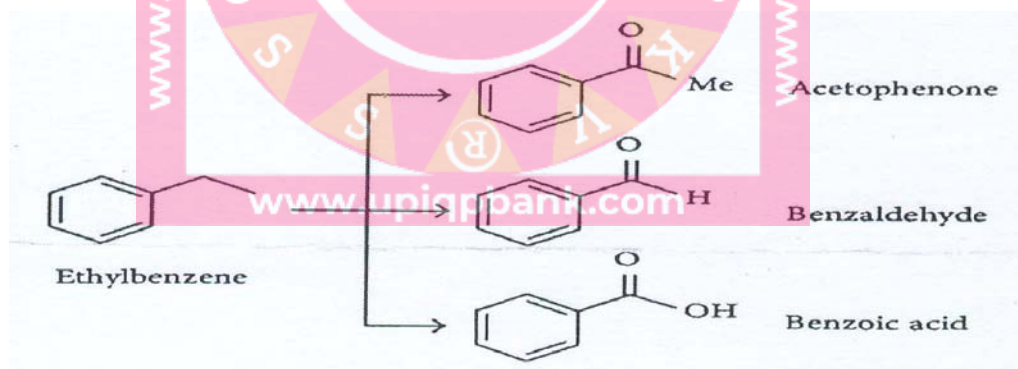
- 2 Explain about what are the factors of fluorimetry and write the principle and instrumentation of FTIR.

- 3 What is coupling constant and different types of coupling constant and write down the number of signals and splitting of signals in NMR spectra by using DMSO as a solvent in 400 MHz NMR spectroscopy.



OR

- 4 What is chemical shift, why Tetra Methyl amine is a good reference in NMR? Write the number of signals and what splitting pattern in Proton NMR would you expect for the final compound shown below.



- 5 Write different types of soft ionization process involved in mass spectroscopy and explain about fragmentation rule.

OR

- 6 Explain about time of flight mass analyzer. What are the different types of ions formed in mass spectra?

- 7 Explain about the principle involved in size exclusion HPLC and how the chromatogram was integrated in HPLC.

OR

- 8 Explain about the detectors used of GC. What are the columns are used in GC?

- 9 Explain about principle, instrumentation and factors affecting in capillary electrophoresis and its applications.

OR

- 10 Explain the basic principle involved in X-ray diffraction method.

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