Pharmacognosy / Pharmaceutics / Pharmaceutical Biotechnology /

M.PHARM. (PHARMACEUTICAL QUALITY ASSURANCE TECHNIQUES / PHARMACEUTICAL CHEMISTRY / PHARMACOLOGY) SEM-I (CBCS-2019 COURSE) : WINTER - 2021

SUBJECT : MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Day : Monday
Date : 15-11-2021

Time : 10:00 AM TO 1:00 PM
Max. marks : 75

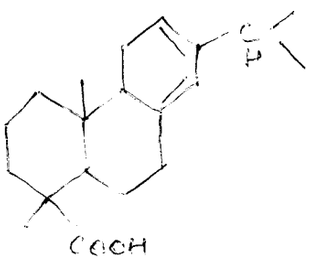
W-2021-20708, 20709, 22409, 22410

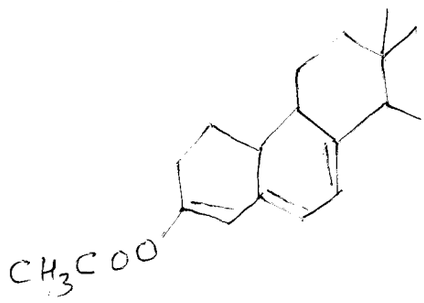
N.B.

1) Attempt **ANY FIVE** questions from the following.
2) Figures to the **RIGHT** indicate **FULL** marks.

Q.1 **a)** Write a detailed note on interpretation aspects of IR spectrum. **(10)**

b) Calculate λ max for the following compounds. **(05)**





Q.2 **a)** Write the chemical shift value and multiplicities of all protons in the given structures. **(10)**

i) 2-methyl propanol ii) propylamine
iii) Butylmethyl ether iv) 1-nitro butane

b) Write a note on choice of solvents in UV-spectroscopy. **(05)**

Q.3 **a)** Write various applications of HPTLC. **(07)**

b) Write the principle, instrumentation and applications of atomic absorption spectroscopy. **(08)**

Q.4 **a)** Write a note on HPLC columns. **(07)**

b) Define chromatography, classify and explain the rate theory and plate theory of chromatography. **(08)**

Q.5 **a)** Discuss in detail capillary electrophoresis. **(07)**

b) Write the principle and instrumentation of TGA **(08)**

Q.6 Write note on the following **(15)**

a) Instrumentation of Spectrofluorimetry
b) Principle and applications of Ion exchange chromatography
c) Gel chromatography

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