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PY 132706

MINA CHOWDHURY CENTRAL LIBRARY,
(GIMT & GIPS)
Azara, Hatkhowapara,
Guwahati - 781017

Roll No. of candidate

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2019

B.Pharm. 7th Semester End-Term Examination

PHARMACEUTICAL ANALYSIS – III

(Old Regulation)

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer Question No. 1 and any Six from the rest.

1. Answer ALL questions. (10 × 1 = 10)

(i) Which of the following is transparent to IR radiation?

- (a) O_2 (b) C_2H_6
(c) C_6H_6 (d) All of the above

(ii) Which of the following doesn't absorb UV light?

- (a) Paracetamol (b) Aspirin
(c) Chloralhydrate (d) Phenobarbitone

(iii) Which of the following is an absorption spectroscopy?

- (a) Fluorimetry
(b) Mass spectrometry
(c) Flame photometry
(d) UV Visible spectrophotometry

[Turn over

- (iv) Parent value for homoannular diene is
- (a) 214 nm (b) 253 nm
(c) 264nm (d) 250 nm
- (v) Which of the following is not used in FTIR
- (a) Monochromator
(b) interferometer
(c) Light source
(d) Detector
- (vi) In reversed phase HPLC
- (a) A hydrophobic stationary phase is combined with a polar mobile phase
(b) A hydrophobic stationary phase is combined with a non-polar mobile phase
(c) A hydrophilic stationary phase is combined with a polar mobile phase
(d) A hydrophilic stationary phase is combined with a non-polar mobile phase.
- (vii) In mass specrometer the sample is bombared with
- (a) Proton (b) Electron
(c) Alpha particle (d) Beta Particle
- (viii) Which of the following compound will show only one signal in H^1 NMR?
- (a) 2,2-dichloropropane
(b) 1,2-dichloropropane
(c) 1,3-dichloropropane
(d) 1,1 -dichloropropane

(ix) X-ray diffraction technique is not used to study the physical property of which of the followings?

- (a) Crystals (b) Liquid
(c) Metal (d) Solids

(x) Direct ELISA test required

- (a) Known antigen
(b) Known antibody
(c) Both of them
(d) None of them

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2. Define and derive Beer-Lambert's law. List out the different parts of a UV-Visible spectrophotometer. With a neat figure, explain the working of a double split UV-Visible spectrophotometer. (8 + 3 + 4 = 15)
3. Explain the basic principle of IR spectroscopy. Mention the different vibrations that occur in IR spectroscopy. Explain why IR graph is recorded in transmittance? With diagram explain the working of a FTIR instrument. (3 + 5 + 2 + 5 = 15)
4. With a neat diagram explain the theory of fluorescence and phosphorescence. Why the wave length of emitted light is more than the absorbed light. Enlist and explain the factors affecting fluorescence. (6 + 2 + 7 = 15)
5. With diagram explain the theory involved in NMR. Define and elaborate Chemical shift. Why TMS is used as reference in NMR? With one example show the number of signal for H^1 NMR. (7 + 3 + 2 + 3 = 15)

6. Define ELISA. With diagram explain the different types of ELISA. Enlist some applications of ELISA. (2 + 9 + 4 = 15)
7. What is HPLC? What do you mean by normal phase and reverse phase HPLC? Differentiate gradient and isocratic techniques. With figure explain the working of an HPLC instrument. (2 + 2 + 2 + 9 = 15)
8. What is detected using mass spectrometry? Define molecular ion peak and base peak Explain the theory of mass spectrometry. (2 + 4 + 9 = 15)
9. Write note on any three (3 × 5 = 15)
- (a) Woodward fisher rule
 - (b) Working of Photomultiplier tube
 - (c) Bolometer
 - (d) RIA
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