41594

Name :

Reg. No:

EIGHTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, APRIL 2013

AI 09 801 – ANALYTICAL AND OPTO-ELECTRONIC INSTRUMENTATION
(2009 Admissions)

Time : Three Hours **Maximum : 70 Marks**

Part A

Short answer questions (one/two sentences)

(All questions are compulsory)

1. Define spectrophotometry.
2. What is meant by FTIR.
3. Define spectrometer.
4. Define population inversion.
5. What is meant by optical telemetry.

5x2marks=10marks

Part B

Analytical/Problem solving questions (Answer four questions out of six).

6. Explain atomic emission spectrometry .
7. Explain the general principle of chromatography.
8. Explain the working of avalanche photodiode.
9. Explain the principle of operation of Fabry-Perot interferometer.
10. Explain any two types of fiber optic sensors.
11. Explain the principle of holography and its applications.

4x5 marks= 20marks

PART C

Descriptive/Analytical /Problem solving questions

Answer all questions

Module1

12. (a) Explain in detail about different ultraviolet spectrophotometer.

OR

(b) Explain different types of photometers.

Turn over

13.(a) Briefly explain the principle and working of ESR spectrometer.

OR

(b) Explain different types of gas analyzers in detail.

14.(a) Briefly explain constructional features of liquid crystal display.

OR

(b) What is meant by modulation? Discuss the operation of magneto optic modulator.

15.(a) Explain the propagation mechanism in step index and graded index fiber.

OR

(b) Explain the measurement of optic fiber characteristics.

4x10 marks=40 marks

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