

F 3352

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Applied Electronics and Instrumentation/Electronics and Instrumentation/
Instrumentation and Control Engineering

AI 010 704 }
EI 010 704 } ANALYTICAL INSTRUMENTATION (AI, EI, IC)
IC 010 704 }

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time : Three Hours

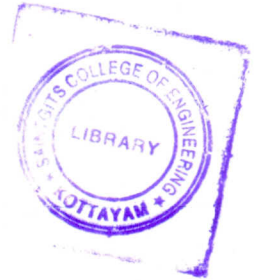
Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. Explain about the use of quantum theory in analytical instruments.
2. What is the basic principle of flame photometry ?
3. Discuss about the application of nonspectrometer.
4. What is flue gas ? What is the need to analyse flue gas ? Explain.
5. What is the difference between normal phase LLC and reverse phase LLC ?



(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Discuss about the steps of analytical instrumentation.
7. Discuss about the principle of fluorescence.
8. Write about the operation of Klystron tube.
9. Explain about conductivity meter.
10. Explain about the types of columns used in gas chromatography.

(5 × 5 = 25 marks)

Turn over

Part C

Answer all questions.

Each question carries 12 marks.

11. (a) Explain about basic principle of IR spectroscopy.
- Or*
- (b) Give a neat sketch of double beam scanning UV-V spectrometer. Also explain about different parts of UV & V spectrophotometer.
12. (a) Explain about the operation of photo acoustic and photo thermal spectroscopy.
- Or*
- (b) With a neat sketch, explain about the working (principle) of electro thermal atomization
13. (a) With a neat sketch, explain about different parts of microwave bridge.
- Or*
- (b) With a neat sketch, explain about the working principle of X-ray tube. Also discuss about the radiation generated by X-ray tube.
14. (a) Explain about paramagnetic oxygen analyzer.
- Or*
- (b) Discuss about the measurement of blood pH.
15. (a) Discuss about basic parts of GC.
- Or*
- (b) Explain about different types of LC.

(5 × 12 = 60 marks)

