

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

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## **BP-701T/PY-701-CBGS**

### **B.Pharmacy VII Semester (PCI Scheme)/ (Non-PCI Scheme)**

Examination, June 2020

### **Choice Based Grading System (CBGS)**

#### **Instrumental Methods of Analysis**

*Time : Three Hours*

*Maximum Marks : 75*

**Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is singlet, doublet and triplet state? Elaborate factors affecting fluorescence.  
b) Explain the instrumentation and application of flame photometry.
2. What is the role of electronic transitions in U.V. spectroscopy? Discuss the instrumentation and its application in pharmaceutical industry.
3. a) Describe the detectors used in Spectroscopy.  
b) What is ion exchange chromatography? How ion exchange process takes place?
4. What types of injector, pumps and detector systems are used in HPLC? Enlist its pharmaceutical importance.
5. Discuss the fundamental modes of vibration in polyatomic molecules. Explain types of solvents and sample handling techniques used in IR spectroscopy.

BP-701T/PY-701-CBGS

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6. How thin layer chromatography is different from paper chromatography? Compare the techniques along with their applications.
7. Explain the following:
  - a) Gel chromatography
  - b) Adsorption chromatography
8. Write short notes on any two of the following:
  - a) Gas chromatography
  - b) Electrophoresis
  - c) Quantitative estimation in UV spectroscopy

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