

**M.Sc.(Chem.) Semester - 2 (CBCS) Examination**  
**May/June-2021 (NEW COURSE)**  
**Analytical Chemistry (CORE)**

Time: 1:30 Hours

Marks: 42

**Instructions:**

1. Figure to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

**Que-1(a) Answer the following question:** (04)

- (1) What is dissolution study? Discuss factor affecting results of dissolution studies.

**Que-1(b) Answer any two questions out of three.** (10)

- (1) Discuss importance and experimental procedure for loss on drying (LOD) test.
- (2) Give introduction and historical account of Indian pharmacopeia.
- (3) Discuss principle and experimental procedure to determine Arsenic as heavy metal.

**Que-2(a) Answer the following question:** (04)

- (1) Define the following terms: (a) Spread, (b) Deviation
- (2) What is Specificity study?

**Que-2(b) Answer any two questions out of three.** (10)

- (1) Distinguish between accuracy and precision; explain any one in detail.
- (2) Explain F-test with suitable example.
- (3) Calculate the value of co-relation co-efficient (r) for following sets of data.

|    |     |      |      |      |      |
|----|-----|------|------|------|------|
| Xi | 50  | 100  | 150  | 200  | 250  |
| Yi | 645 | 1240 | 1899 | 2424 | 3003 |

**Que-3(a) Answer the following question.** (04)

- (1) Explain the concept of atom economy with suitable example.

**Que-3(b) Answer any two questions out of three.** (10)

- (1) Enlist basic twelve principles of green chemistry and explain any one with example.
- (2) Discuss the concept of non-traditional greener alternative approach.
- (3) What is ionic liquid? Give an example of ionic liquid mediated reaction.

**Que-4(a) Answer the following question.** (04)

- (1) What are Trademarks? Explain its types.

**Que-4(b) Answer any two questions out of three.** (14)

- (1) Define patent and discuss what cannot be patented under Indian patent law?
- (2) What is Paris Convention? Enlist its principal features and advantages.
- (3) Explain publication and examination of patent application.

**Que-5(a) Answer the following:** (04)

- (1) Write a note on Sahil's method for estimation of Hemoglobin.

**Que-5(b) Answer any two questions out of three.** (14)

- (1) Explain quantitative determination of urine glucose.
- (2) Discuss principles for separation of biological fluids.
- (3) Give clinical significance and experimental procedure to determine cholesterol.

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