

M.Sc.(Chem.) Semester - 2 (CBCS) Examination
March/April– 2019 (New Course)
Analytical Chemistry (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q.1 (a) Answer the following questions.**[04 Marks]**

1. What is Monograph?
2. What is Potency of drug? How it can be calculated?

Q.1 (b) Answer any two questions out of three.**[10 Marks]**

1. Write a note on paddle type dissolution apparatus.
2. Discuss importance and experimental procedure for Residue on Ignition(ROI) test.
3. Discuss principle and estimation procedure to determine Fe and Pb as heavy metal.

Q.2 (a) Answer the following question.**[04 Marks]**

1. Calculate %relative standard deviation for following six replicates observations.

Set	1	2	3	4	5	6
Observation	41,949	42,741	43,813	43,124	42,015	43,342

Q.2 (b) Answer any two questions out of three.**[10 Marks]**

1. Explain Linearity study with suitable example.
2. Discuss student *t*- test in detail with example.
3. Find the value of co-relation co-efficient (*r*) for following sets of data.

Xi	100	200	300	400	500
Yi	1012	2133	3149	4035	5051

Q.3 (a) Answer the following question.**[04 Marks]**

1. Discuss advantages and limitations of microwave assisted reactions.

Q.3 (b) Answer any two questions out of three.

[10 Marks]

1. Enlist basic twelve principles of green chemistry and explain its role in day to day life.
2. What is atom economy? explain atom economy with suitable examples.
3. Explain oxygen combustion flask method for the estimation of halogens.

Q.4 (a) Answer the following question.

[04 Marks]

1. Discuss types of intellectual property laws in brief.

Q.4 (b) Answer any two questions out of three.

[10 Marks]

1. Define patent and discuss what cannot be patented under Indian patent law?
2. Give an account of Copyrights and discuss its relative rights.
3. What are the essential documents to be generated and submitted by a patentee?

Q.5 (a) Answer the following question.

[04 Marks]

1. Discuss basic principles for separation of biological fluids in brief.

Q.5 (b) Answer any two questions out of three.

[10 Marks]

1. Write a note on GOD-POD method for estimation of blood glucose.
2. Give principle, experimental procedure and limitation of Sahli's Hemoglobinometer.
3. What is cholesterol? discuss ZAK's method for estimation of total blood cholesterol.
