

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Winter 2018-19 Examination

Semester: 3
Subject Code:11203103
Subject Name: Analytical Tools & Technique

Date: 27/10/2018
Time: 10:30 am to 1:00 pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Brief note (4x2) (Each of 04 marks) (08)**
(a) Write a detail note on SDS-PAGE.
(b) Write a short note on paper chromatography.
- Q.1. B) Answer the following questions (Any two)**
(a) Short questions (Each of 02 marks) (04)
1. Define R_f value.
2. Define chromatography.
(b) Difference between TEM and SEM. (04)
(c) Write a note on bright field microscopy. (04)
- Q.2. A) Answer the following questions.**
(a) Short questions (Each of 02 marks) (04)
1. Write full form of GC and HPLC
2. Define resolution power
(b) Write a note on Western blotting technique. (04)
- Q.2. B) Answer the following questions (Any two)**
(a) Short questions. (Each of 01 marks) (03)
1. Who discover microscope?
2. Which dye can be used for fluorescence microscopy?
3. Give the example of mobile phase.
(b) Write applications of DNA fingerprinting. (03)
(c) Applications of autoradiography. (03)
- Q.3. A) Brief note (4x2) (Each of 04 marks) (08)**
(a) Write about instrumentation and applications of UV-Visible spectrophotometer.
(b) Write a note on agarose gel electrophoresis.
- Q.3. B) Answer the following questions (Any two)**
(a) Short questions (Each of 02 marks) (04)
1. Give the examples of stationary phase.
2. What are the applications of phase contrast microscopy?
(b) Write a short note on ultra-centrifugation. (04)
(c) Write a short note on affinity chromatography. (04)
- Q.4. A) Answer the following questions.**
(a) Brief note (2x2) (Each of 02 marks) (04)
1. Define electrophoresis.
2. What is Iso-electric focusing?
(b) Write a note on size exclusion chromatography. (04)
- Q.4. B) Answer the following questions (Any two)**
(a) Short questions. (Each of 01 marks) (03)
1. What is autoradiography?
2. Write full form of SDS-PAGE and ORD.
3. Applications of lyophilization.
(b) Explain Lambert-Beer's law. (03)
(c) Applications of radioisotopes in biological sciences. (03)