

SARDAR PATEL UNIVERSITY
B.Sc. (V- SEMESTER) EXAMINATION
Wednesday, 13th November 2019
10.00 a.m. to 1.00 p.m.
US05CMIC02 : MICROBIOLOGY

TOTAL MARKS : 70

Q-1 Select the correct answer for the each question from the options given below. **10**

1. In visible spectrometer, _____ is used as a light source.
(a) Tungsten filament lamp (b) Nernst glower (c) hollow cathod lamp (d) all of the above
2. Who introduced atomic absorption spectroscopy ?
(a) Martin Syngde (b) Beer (c) M. Tswett (d) Alan Walsh
3. Which of the following spectroscopy technique based on the principle of " bond vibration".
(a) Infra red (b) Nephelometry (c) Atomic absorbance (d) U.V. visible
4. How the movement of an analyte in TLC can be expressed ?
(a) Selectivity factor (b) Capacity factor (c) Partition coefficient (d) Retardation factor
5. Which marker dye used in electrophoresis technique ?
(a) Bromothymol blue (b) Methylene blue (c) Bromophenol blue (d) none of these
6. Which centrifugal technique separates analytes with same size but different density ?
(a) Rate zonal (b) Differential (c) Iso pycnic (d) none of these.
7. In HPLC, guard column is installed between the injector and _____.
(a) Detector (b) Recorder (c) Pump (d) Analytical column.
8. Which chromatography technique can be use for the separation of non polar and volatile compound .
(a) Affinity (b) TLC (c) Ion exchange (d) Gas liquid.
9. Which of the following is an example of homology and similarity tool ?
(a) BLAST (b) BASLT (c) EMBOSS (d) RAMSOL
10. Which is useful biocatalyst in biosensors ?
(a) Enzyme (b) Cell (c) Tissue (d) all of them.

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CPTO

Q-2 Give short answers to the following questions. (Attempt any Ten) 20

1. State Lambert's law.
2. Draw the block diagram of AAS.
3. Applications of ultra centrifuge.
4. Essential features of mass spectrophotometer.
5. Give the principle of gas liquid chromatography.
6. Write the difference between separating gel and stacking gel in electrophoresis.
7. Give at least two difference between filters and monochromators.
8. Difference in brief between native PAGE and SDS- PAGE.
9. Write the principle of TLC.
10. Enlist applications of bioinformatics.
11. Define isotopes and radio isotopes.
12. Discuss the application of radio isotopes in clinical diagnosis with the suitable examples.

Q-3 Write down the principle, working and application of UV-Visible spectroscopy. 10

OR

Q-3 (A) Describe the burners used in flame photometry. 05

(B) Describe Nephelometry. 05

Q-4 Give detail account on poly- acrylamide gel electrophoresis. 10

OR

Q-4 Discuss different methods of density gradient centrifugation with its applications. 10

Q-5 Discuss in detail on gas chromatography. 10

OR

Q-5 Discuss the principle, working and application of ion exchange chromatography. 10

Q-6 Write a note on biosensors. 10

OR

Q-6 (A) Enlist and discuss aim of bioinformatics. 05

(B) Enlist various types of radioactive decay and discuss any one in detail. 05

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