Roll No. .....

2024
B.Tech
5th Sem.

Department of Food Technology
School of Interdisciplinary Sciences and Technology
Jamia Hamdard, New Delhi-110062
END SEM EXAMINATION (December, 2024)
B.Tech. Semester-V
Paper Title: Techniques in Food Analysis ; Paper Code: BFTC-502

Time allotted: *3 hours* **Max Marks:** *60*

Note: write to the point, please make sure you have mentioned question no. before answering

SECTION A: **(2×10= 20 marks)**

Attempt all questions from the following

1.	Define sampling.	CO1, PO1
2.	Define calibration of instruments.	CO1,2; PO1,2
3.	Define standardization of instruments.	CO1,2; PO1, 2
4.	Give full form of HPLC and TLC.	CO1, PO1
5.	Give full form of GC-MS and FTIR.	CO1, PO1
6.	Enlist various chromatographic techniques.	CO1, PO2
7.	Define magnification of microscope.	CO1, PO2
8.	Give full form of SDS-PAGE.	CO1, PO1
9.	Give full form of DSC and NMR.	CO1, PO1
10.	Define centrifugation.	CO1, PO1

SECTION B: **(5×4= 20 marks)**

Attempt any 4 questions from the following

11.	What is importance of sampling in food analysis?	CO1,2; PO1,2
12.	Explain accuracy and precision.	CO1,2; PO2
13.	What is paper chromatography, and how is it used to separate and analyze components in a mixture?	CO2; PO1,2
14.	How does Polymerase Chain Reaction (PCR) amplify DNA, and what are its key applications in food?	CO2,3; PO1,2,3
15.	Write a short note about biosensors and give their applications in food.	CO1; PO1,2
16.	Describe the principle of centrifugation and give relation between g and RCF	CO1; PO2,3

SECTION C: **(10×2= 20 marks)**

Attempt any 2 questions from the following

17.	What is Gas Chromatography-Mass Spectrometry (GC-MS), and what are its applications in food?	CO2,3; PO2,3
18.	Enlist different types of microscopes and explain the principle, working and construction of Scanning electron microscopy.	CO1,2,3; PO2,3,4
19.	What is the principle of ELISA, and how is it used to detect specific antigens or antibodies in a sample? What are different types of ELISA?	CO2,3; PO2,3
20.	Briefly explain principle, working and construction of gel electrophoresis system.	CO2,3; PO2,3,4