



## BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Pharm-2019
Course Name – Advanced Instrumentation Techniques
Course Code - BP811ET
( Semester VIII )

Full Marks: 75 Time: 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## Group-A

(Multiple Choice Type Question)

1 x 20=20

- Choose the correct alternative from the following :
  - (i) Select the best one out during electronic balance calibration the 1st step we check is?
    - a) Verified balance weights.

b) last calibration data.

c) last validation data.

- d) Bubble balance.
- (ii) Select the best one out the inert gas is used for gas chromatography?
  - a) nitrogen.

b) argon.

c) helium.

- d) all of these.
- (iii) Select in IR spectrophotometry the solid sample run with the help of?
  - a) magnesium bromide.

b) sodium chloride.

c) silver iodide.

- d) potassium bromide.
- (iv) Memorize in solid phase extraction preconditioning done using?
  - a) LCMS grade methanol.

- b) 10% methanol.
- c) extracted sample using methanol.
- d) all of these.
- (v) Select the mainly required Filter for solid phase extraction?
  - a) filter paper.

b) micron filter.

c) holmium filter.

- d) cartridge filter.
- (vi) Identify the liquid liquid extraction occurs with the help of?
  - a) glass funnel.

b) buchner funnel.

c) manifold.

- d) separating funnel.
- (vii) Which of the following solvent is not used in NMR?
  - a) CHCL3

b) CCL4

c) CDCL3

- d) D20
- (viii) Select During Calibration robustness of High performance liquid chromatography which parameter is not used?
  - a) System to system variation.
- b) Flow rate variation.
- c) Person to person variation.
- d) Linearity variation.
- (ix) Select Analysis of sodium in Flame Photometry gives which color?



8. Explain the detailed principle of DSC		1.02
as principle of DSC	by drawing the schometic	- 1
	s are sellematic diagram o	of the Apparatus (5)
Write		ppdratus. (5)
Write a short note on X-Ray crystallo	OR	
- ystallo	graphy.	
	<b></b>	(5)
	Group-C	107
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(==1,6	Answer Type Questions)	
9. Describe in dotail at		10 x 2=20
10. Explain concept of TQM. Add a note of	pectrophotom	
concept of TQM. Add a note of	on ICH to	C
F 11-	on ich-EG guidelines	(10)
Explain the principle and different me	OR	(10)
and different me	thods of Radio Immune	***************************************
	Milliano Assay	(10)
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