winter 2023

SGU	Sanjay Ghodawat University, Kolhapur Established as State Private University under Govt. of Maharashtra. Act No XL, 2017	2022-2023 EXM/P/09/ 00

Year and Program **Final. Y. B. Pharm**	**School of Pharmaceutical Sciences**	**Department: Pharmacy**
Course Code: BP701T	**Course Title: Instrumental Methods of Analysis**	**Semester – VII**
Date:01/01/2024 **Day:Monday** **Time: 10:30am to 1.:30pm**	**Examination: End Semester**	**Max Marks: 75**

Instructions: 1) All questions are compulsory.
2) Draw a neat labeled diagram if necessary.

		Marks 20	Bloom's Level	CLO
Q.1	**Multiple Choice Questions (20X1)**			
a)	HPLC Stands for..... A. Performance B. Pressure C. Both A and B D. None	01	1	3
b)	Flame ionization detector is used in A. TLC B. HPLC C. Ion exchange Chromatography D. Gas chromatography	01	1	5
c)	UV Spectroscopy working on which phenomenon? A. Absorption B. Elution C. A and B both D. None of this	01	1	1
d)	Which compound increased UV absorption? A. Auxochrome B. Chromophore C. Inorganic Compound D. All of the above	01	1	1

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e)	Fluorescence intensity is directly proportional to A. Concentration of substance B. Radiation from the sources C. Temperature D. Viscosity	01	1	1
f)	Which of the following is best technique for preparation of TLC plate A. Pouring B. Dipping C. Spraying D. Spreading	01	1	2
g)	Which of the following is not a detector used in flame emission photometers? A. Photo tube B. Photovoltanic cell C. Chromatogram D. Photoemissive tube	01	1	1
h)	Which type of packing technique of column not commonly used A. Wet packing B. Dry packing C. Semiwet packing D. Semidry packing	01	1	3
i)	Tungsten lamp filament has required how much temperature? A. 2000k B. 3000k C. 4000k D. 5000k	01	1	2
j)	Which of the following chromatography is also called as filtered chromatography? A. Ion exchange chromatography B. TLC C. HPLC D. Gel chromatography	01	1	5

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k)	When absorption intensity of compound is decreased is called as A. Red shift B. Blue shift C. Hypochromic shift D. Hyperchromic shift	01	1	1
l)	Which material is used as supporting system in ion exchange chromatography? A. Phenol B. Metal C. Resin D. Carbohydrate	01	1	5
m)	At low pressure mercury lamp linear radiation wavelength is? A. 254 nm B. 700 nm C. 800 nm D. 600 nm	01	1	1
n)	In which of the following type of paper chromatography the mobile phase move vertically in upward direction over sheet of paper? A. Ascending paper chromatography B. Descending paper chromatography C. Radial paper chromatography D. Ascending Descending paper chromatography	01	1	2
o)	Laminar flow burner used in flame photometers is also known as ..... A. Turbulent burner B. Premix burner C. Total consumption burner D. Nozzle mix burner	01	1	2
p)	Which type of filter paper is mostly used in paper chromatography? A. Butter paper B. Sample paper C. Whatmann filter paper D. None	01	1	3

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q)	In chromatography the stationary phase can be ..... Supported on a solid. A. Solid or liquid B. Liquid or gas C. Solid only D. Liquid only	01	1	3
r)	The components with less affinity towards the mobile phase A. Travel slow B. Travel fast C. Can't predicted D. None of the above	01	1	3
s)	The identification of spot on TLC plate done by all of following except A. Spraying with reagent B. Under microscope C. Fluorescence D. Fluorescence adsorbent	01	1	2
t)	Lambert's law states that the intensity of light decreases with respect to A. Concentration B. Distance C. Composition D. Volume	01	1	1

Q.2

	Long Answers (Answer 2 out of 3)	**20**	**Bloom's Level**	**CLO**
a)	Explain in brief application of UV Spectroscopy.	10	2	1
b)	Write methodology and give any five development techniques of paper chromatography.	10	1	3
c)	Write the instrumentation with diagram and four application of gas chromatography.	10	1	2

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	Short Answers (Answer 7 out of 9)	35	Bloom's Level	CLO
a)	Explain instrumentation with diagram of Fluorimetry.	05	2	1
b)	Discuss classification and factors affecting ion exchange chromatography.	05	2	5
c)	Explain in detail fundamental modes of vibration in poly atomic molecules of IR Spectroscopy.	05	2	2
d)	Write beer's lambert's law in detail and explain derivation and deviation.	05	1	1
e)	Define is electrophoresis. Write any four factors affecting electrophoretic mobility.	05	1	3
f)	Explain instrumentation with diagram and any four application flame photometry.	05	2	2
g)	Write any two advantages and instrumentation with diagram of HPLC.	05	2	4
h)	Define UV Spectroscopy and Give the principle of UV Spectroscopy..	05	1	1
i)	Explain the electronic transition in absorption spectroscopy.	05	2	1

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