Total No. of Questions: 6 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Pharmacy

End Sem (Even) Examination May-2022

PY6CW01 Advances in Pharmaceutical Sciences

Programme: Ph.D. Branch/Specialisation: Pharmacy (Course Work).

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1	i.	Define drug stability.	**1**
	ii.	Give two applications of zeta potential.	**1**
	iii.	Define drug design.	**1**
	iv.	What are ligands? Give any two examples.	**1**
	v.	What are the advantages of UPLC over HPLC?	**1**
	vi.	Write the principle of UV-Vis Spectroscopy.	**1**
	vii.	Give the examples for Infusion and decoction processes.	**1**
	viii.	What are primary and secondary metabolites?	**1**
	ix.	Write full form of CPCSEA and OECD.	**1**
	x.	Give two advantages and two disadvantages of animal experimentation.	**1**
Q.2	i.	What are preclinical investigations?	**2**
	ii.	Write the BCS classification of drugs with at least two examples from each category.	**3**
	iii.	Explain any five preformulation parameters with suitable examples.	**5**
OR	iv.	Explain the importance and applications of various release kinetic mathematical equations with suitable examples and diagrams.	**5**
Q.3	i.	What do you mean by binding pocket?	**2**
	ii.	Explain ligand-based drug design with examples and applications.	**8**
OR	iii.	Explain structure-based drug design with examples and applications.	**8**

P.T.O.

Q.4	i.	Write the difference between validation and calibration.	**3**
	ii.	Give the principle involved and applications of Gas Chromatography.	**7**
OR	iii.	Give the principle involved and applications of mass spectroscopy or NMR spectroscopy.	**7**
Q.5	i.	Define Extraction. Give applications of extraction process with respect to drugs for therapeutic use.	**4**
	ii.	Write the difference between percolation, decoction and infusion and give advantages of each over other.	**6**
OR	iii.	Write about novel methods used in extraction processes with suitable examples.	**6**
Q.6		Attempt any two:	
	i.	Explain animal models and protocols for drugs having anti-diabetic and anti-inflammatory activities.	**5**
	ii.	Write about alternatives used for animal experimentation.	**5**
	iii.	Write notes on CPCSEA guidelines and ICH guidelines for testing of a new chemical substance.	**5**

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Scheme of Marking

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	Programme: Ph.D. (Course Work). | | Branch/Specialisation:

Note: The Paper Setter should provide the answer wise splitting of the marks in the scheme below.

Q.1	i)	Definition- one mark	1
	ii)	One mark each application	1
	iii)	Definition- one mark	1
	iv)	Definition- half mark and 2 examples half marks.	1
	v)	Definition- one mark	1
	vi)	Name and equation- half mark each	1
	vii)	Half mark for example of each process	1
	viii)	Definition- half mark each	1
	ix)	Full form - half mark each	1
	x)	Two advantages/ disadvantages half mark.	1
Q.2	i.	Definition – one mark and examples/ types- 1 mark	2
	ii.	BCS classification 2 marks, examples 1 mark	3
	iii.	Each explained parameter 1 mark	5
OR	iv.	Importance- 2.5 mark and applications- 2.5 marks	5
Q.3	i.	Definition – one mark and examples/ diagram- 1 mark	2
	ii.	Explanation- 4 mark, examples- 2 marks and applications 2 marks	8
OR	iii.	Explanation- 4 mark, examples- 2 marks and applications 2 marks	8
Q.4	i.	Each difference 1 mark	3
	ii.	Principle involved 3 marks, diagram 1 mark, example-1 mark and applications 2 marks	7
OR	iii.	Principle involved 3 marks, diagram 1 mark, example-1 mark and applications 2 marks	7
Q.5	i.	Definition- 2 marks, applications- 2 marks	4
	ii.	Each technique with example- 2 marks	6
OR	iii.	Types- 3 marks, examples 2 marks, diagrams 1 mark	6
Q.6			
	i.	Models and protocols- 4 marks, examples/ applications 1 mark	5
	ii.	Each alternative explanation with example/ application 1mark	5
	iii.	CPCSEA guidelines – 2.5 marks and ICH guidelines- 2.5 marks	5

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