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3rd Semester Regular / Back Examination: 2021-22
PHYSICAL PHARMACEUTICS-I
BRANCH(S): B.Pharma
Time: 3 Hour
Max Marks : 75
Q.Code:OF612

Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1		**Answer the following questions:**	(2×10)
	a)	Expressthe term solubility.	
	b)	Define glassy state.	
	c)	Explain about sublimation.	
	d)	What is boiling point and vapor pressure?	
	e)	Express polymorphism with suitable example.	
	f)	What do you understand the term glass transition temperature?	
	g)	Differentiate between surface tension and interfacial tension.	
	h)	What is Sorensen's pH scale?	
	i)	What is tonicity? Mention its importance.	
	j)	Mention the physiochemical properties of drug molecules.	

Part-II

Q2		Focused-Short Answer Type Questions- (Answer Any Seven)	(5×7)
	a)	Define solution? Mention the mechanism of solute and solvent interaction.	
	b)	Write notes on spreading coefficient.	
	c)	Narrate the basic principles of aerosol.	
	d)	Explain critical solution temperature and its applications using suitable example.	
	e)	Write a notes on HLB system	
	f)	What is chelate, mention its application	
	g)	What is buffer, mention how it is importance in pharmaceutical field?	
	h)	Write a notes on Eutectic mixture	
	i)	Mention how crystalline differ from amorphous	

Part-III

Long Answer Type Questions (Answer Any Two)

Q3	What is Raoult's law? Describe it briefly.	
Q4	What is universal gas law, derive it.	(10)
Q5	What is surfactant? Classify it and discuss the pharmaceutical application.	(10)
Q6	Discuss details about complexation, mention how drug-βcyclodextrin complexation occurs.	(10)
		(10)

3rd Semester Regular / Back Examinations: 2021-22
PHARMACEUTICAL ENGINEERING
BRANCH: B.Pharma
Time: 3 Hours
Max Marks: 75
Q. Code: OF662

Answer Question No.1 (Part-I) which is compulsory, any seven from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Answer the following questions: (2×10)

a) Distinguish between drying and evaporation?

b) List out the different mechanisms of size reduction?

c) Define equilibrium moisture content and critical moisture content?

d) Define black body and grey body?

e) What are the various grades of powders official in pharmacopoeia?

f) State Raoult's law and its significance in distillation?

g) What are the different modes of feed supply in multiple effect evaporator?

h) What is meant by dead spot in the mixing equipments and how it can be prevented?

i) What is overall heat transfer coefficient?

j) Discuss about Stefan-Boltzmann law in heat transfer by radiation?

Part-II

Q2 Focused-Short Answer Type Questions: (Answer Any Seven)   (5×7)

a) What are the reasons for vortex formation and how it can be prevented?

b) What are filter aids? How they facilitate the process of filtration?

c) How multiple effect evaporators are more economic than single effect evaporators?

d) What is corrosion? Discuss about the theories of corrosion?

e) Describe the construction and working of fluid energy mill?

f) Explain the working of cyclone separator and its usefulness?

g) Describe construction and working of supercentrifuge?

h) What is Reynold's number? Discuss its significance?

i) Describe the principle and applications of steam distillation?

Part-III

Q3 Long Answer Type Questions (Answer Any Two)

Write in detail on principle, construction, working, advantages and disadvantages of fluidized bed dryer?   (10)

Q4 State Fourier's law? Derive an equation for heat transfer by conduction through a uniform metal wall? Discuss the application of thermal conductivities?   (10)

3rd Semester Regular / Back Examination: 2021-22
PHARMACEUTICAL MICROBIOLOGY
BRANCH: B. Pharma
Time : 3 Hour
Max Marks :75
Q.Code : OF712

Answer Question No.1 (Part-I) which is compulsory, any seven from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I   (2×10)

Q1 Answer the following questions :
a) Write down the nutritional requirements for bacteria.
b) Why for spread plate method is carried out?
c) Write the composition of nutrient broth.
d) Draw a flow diagram of aseptic area.
e) Give few examples of preservatives used in pharmaceutical formulations.
f) Differentiate disinfectants and antiseptics.
g) What is Acid fast bacteria and give an example of it?
h) Write down the different steps involved in 'assessment of a new antibiotic'.
i) Mention the full form and efficiency of HEPA?
j) Name any four Gram positive bacteria.

Part-II   (5×7)

Q2 Focused-Short Answer Type Questions- (Answer Any Seven)
Discuss briefly on the followings:
a) Factors influencing disinfection
b) Bacterial growth curve
c) Electron microscopy
d) Classification and mode of action of disinfectants
e) Application of cell culture in pharmaceutical industry
f) Sterility indicators
g) Identification of bacteria using IMVIC tests
h) Gram's staining
i) Classification of clean area according to ISO guideline

Part-III
Long Answer Type Questions (Answer Any Two)

Q3 Differentiate between prokaryotes and eukaryotes using various features of them.   (10)

Q4 What do you mean by sterilization? Discuss about principle, procedure, ments, demerits and applications of physical method of sterilization.   (10)

Q5 Discuss briefly about the principles and methods of different microbiological assay.   (10)

Q6 What is cell culture? Explain in details about the general procedure for cell culture.   (10)

3rd Semester Regular / Back Examination: 2021-22
PHARMACEUTICAL ORGANIC CHEMISTRY - II
BRANCH(S): B.Pharma
Time : 3 Hour
Max Marks : 75
Q.Code : OF577

Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

(2×10)

Q1   Answer the following questions :

a)   What is Reichert- Meissl value?
b)   Structure and uses of DDT and BHC.
c)   What is Huckel's rule of aromaticity?
d)   Write any two Qualitative tests for Phenol.
e)   Brief out on reduction reaction of phenanthrene.
f)   Describe about Coulson and Moffitt's modification.
g)   Explain why benzoic acid is stronger acid than acetic acid?
h)   Write the structure and uses of Saccharin and Chloramine.
i)   What do you mean Essential fatty acid? Give the examples.
j)   What happens when sodium benzoate is heated with sodalime?

Part-II

(5×7)

Q2   Focused-Short Answer Type Questions- (Answer Any Seven)

a)   Write a note on Sachse Mohr's theory.
b)   Explain the Haworth synthesis for Naphthalene.
c)   Determination of acid value & Iodine value with its significance.
d)   What are lipids? Write their classification in detail.
e)   Give reason why ammonia is stronger base than aniline?
f)   What are the methods used for the synthesis of phenanthrene.
g)   Discuss the reaction and mechanism of Friedel-craft alkylation and Friedel-craft acylation reaction.
h)   Explain the preparation and effect of substituents on the acidic character of Aromatic acids.
i)   Write the general method of preparations and reactions of aromatic amines.

Part-III
Long Answer Type Questions (Answer Any Two)

Q3   Outline any three preparations and three reactions of Phenol. Explain the acidity of Phenol.   (10)

Q4   Explain the Hydrolysis and Hydrogenation reactions of Fatty acids. Write a note on the types of rancidity and the methods for prevention of rancidity.   (10)