Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– V• EXAMINATION – SUMMER 2015

Subject Code:153605 **Date: 11/05/2015**

Subject Name: Microbiology & Formulation Technology of Liquids & Topicals

Time:02.30pm-05.00pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain Preformulation and what are the different preformulation characteristics. Explain each.	**07**
	(b)	What are the different methods of maintaining and preserving pure cultures? Explain each method briefly.	**07**
Q.2	**(a)**	Discuss in detail the function, usage and characteristics of wetting agents and suspending agents in suspensions.	**07**
	(b)	What do you mean by dosage form? Which are the different types of Pharmaceutical dosage forms?	**07**
		OR	
	(b)	Explain the different liquid dosage forms. What is the difference between biphasic & monophasic solutions?	**07**
Q.3	**(a)**	(i) What are the different topical dosage forms available? Explain the difference between each.	**05**
		(ii) Differentiate between: minimal and differential media.	**02**
	(b)	Give an account of different types ointment bases.	**07**
		OR	
Q.3	**(a)**	Describe the different defense mechanisms of the body?	**07**
	(b)	Name the different cell organelles of a eukaryotic cell. Draw the structure and mention the function of each.	**07**
Q.4	**(a)**	Explain briefly the principle and working of (a). Hot air oven, (b).Autoclave, (c). Laminar air flow cabinet, (d). Bacteriological Incubator.	**07**
	(b)	Explain the terms (a). Sterilization, (b). Disinfection, (c). Asepsis, (d).Sanitization. What are the three different kinds of bacterial death? Explain with plots.	**07**
		OR	
Q.4	**(a)**	(i) Which are the different types of light microscope? Write the function of each.	**05**
		(ii) What is the resolution limit of light microscope?	**02**
	(b)	(i) Explain (a). Antigen, (b). Antibodies.	**05**
		(ii). Differentiate between positive and negative staining.	**02**
Q.5	**(a)**	Discuss in detail the following quality control parameters for suspensions: (a). Sedimentation, (b). particle size, (c). assay, (d). content uniformity, (e). stability and (f). preservative efficacy.	**07**
	(b)	(i).When we use oil immersion lens, resolution is increased. Justify the statement.	**05**
		(ii). Define pre reduced media.	**02**
		OR	
Q.5	**(a)**	Explain creaming and cracking of emulsions in detail & what could be done to avoid it.	**07**
	(b)	(i). Define Taxonomy	**02**
		(ii). Write down the different characteristics by which microbes are classified.	**05**

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