Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2163901 **Date: 27/04/2017**

Subject Name: Coating technology

Time: 10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

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

			MARKS
Q.1		**Short Questions**	**14**
	1	Define the wetting.	
	2	Define the super hydrophobic.	
	3	Which coating technique is suitable for ornament coating?	
	4	Which kind of industries has used the ion beam implantation?	
	5	Draw the neat diagram of laser alloying.	
	6	Why wear occur?	
	7	Write the meaning of galvanizing in term of electroplating.	
	8	Write the suitable technique of metal oxide coating.	
	9	Give the chemical name of conduction coating on glass.	
	10	Write the full name of PTFE with chemical formula.	
	11	Give the example of electrolyte for copper electroplating.	
	12	Write the example of Electroplating.	
	13	Write the relation of surface energy of air, liquid and solid.	
	14	Write the suitable example of non-conducting coating.	
Q.2	**(a)**	Explain surface tension.	**03**
	(b)	Write short note on sol-gel method.	**04**
	(c)	Write the full form of EPD and explain with neat diagram.	**07**
		OR	
	(c)	Explain the DLC coating.	**07**
Q.3	**(a)**	Explain the surface engineering for coating technology.	**03**
	(b)	Give the advantage and disadvantage of electroplating.	**04**
	(c)	Write the two suitable sol-gel coating techniques.	**07**
		OR	
Q.3	**(a)**	Explain the Cladding versus Alloying.	**03**
	(b)	Explain the role of UV curing with suitable example.	**04**
	(c)	Explain laser Cladding with neat diagram.	**07**
Q.4	**(a)**	Write the advantage of antifriction coating with suitable example.	**03**
	(b)	Explain the advantage and disadvantage of polymer coating.	**04**
	(c)	Explain the SEM.	**07**
		OR	
Q.4	**(a)**	Explain Contact angle.	**03**
	(b)	Write a short note on Conducting coating.	**04**
	(c)	Explain Electroplating in detail with neat diagram.	**07**

Q.5	**(a)**	Give the difference between Electroplating and EPD.	**03**
	(b)	Give the advantages and disadvantages of conventional verses nanocoatings.	**04**
	(c)	Explain the electron beam hardening.	**07**

OR

Q.5	**(a)**	Give the advantage and disadvantage of Ion beam implantation.	**03**
	(b)	Write the application of Coating technology.	**04**
	(c)	Explain the transmission electron microscope (TEM).	**07**

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