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

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) - EXAMINATION – SUMMER 2016

Subject Code:2162308 **Date:11/05/2016**

Subject Name: Advance Plastics Processing

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	Advantages of Calendering process	
	2	Moulds for Rotomoulding process	
	3	Discuss biaxial rotation in rotomoulding process	
	4	Advantages of Reaction Injection Moulding	
	5	Raw materials used for Rotomoulding process	
	6	What are closed cell foams?	
	7	Define : Compression set/compression resistance	
	8	What is the function of blowing agent? Discuss	
	9	What are syntactic foams?	
	10	Difference between Rigid and flexible foams	
	11	Discuss K factor in foams.	
	12	Types of inserts used in plastic products	
	13	Discuss printing technique used for flat surfaces.	
	14	What is Ultrasonic welding?	
Q.2	**(a)**	Types of Calenders	**03**
	(b)	Discuss process steps in Roto moulding process	**04**
	(c)	Discuss the process of Reaction Injection Moulding in detail	**07**
		OR	
	(c)	Discuss general production methods for foams	**07**
Q.3	**(a)**	Explain Parison Programming	**03**
	(b)	Compare Extrusion Blow Moulding v/s. Injection Blow Moulding	**04**
	(c)	Explain Calendering Process with a neat line diagram	**07**
		OR	
Q.3	**(a)**	Discuss encapsulation process	**03**
	(b)	List advantages and disadvantages of structural foam	**04**
	(c)	Explain the rotogravure printing process for printing of plastics	**07**
Q.4	**(a)**	Give causes and remedies for any 2 defects occurring in blow moulding process	**03**
	(b)	Short note on manufacture of PU foam.	**04**
]	**(c)**	List finishing and machining techniques for plastics and discuss any two.	**07**
		OR	
Q.4	**(a)**	Short note on fluidized bed powder coating technique	**03**
	(b)	List difference between rotomoulding and blow moulding	**04**
	(c)	Discuss advantages and disadvantages of Injection Blow moulding. Compare Extrusion Blow moulding v/s. Injection blow moulding	**07**
Q.5	**(a)**	Short note on silicone foam.	**03**
	(b)	Explain vacuum metallization process	**04**

	(c)	With a neat line diagram, discuss Injection stretch Blow moulding process for manufacture of PET bottles	**07**

OR

Q.5	**(a)**	Heating system for calender rolls	**03**
	(b)	Discuss expandable polystyrene foams	**04**
	(c)	Tick the correct one:	**07**

1. Function of metal detector in calendaring is
   [a] separation of metal[b]protection of calender rolls [c] removal of metal particles[d] all of the above

2. PP bottles are manufactured by [a] extrusion blow moulding [b] injection blow moulding [c] stretch blow moulding [d] none of the above

3. Material required for rotational moulding process should be [a] granular [b] semi liquid [c] powder [d] liquid

4. Products having uneven surfaces are printed by [a] screen printing method [b] pad printing method [c] flexo method[d] spray painting method

5. Calender normally used for PVC is [a] I type[b]L-type [c] Inverted L type[d] Z type

6. Vacuum metallizing process is used for [a] Sheets [b] films [c] none of above [d] both a and b

7. stretch blow moulding offers advantage of
[a] biaxial orientation
[b] enhanced tensile strength
[c] excellent gas barrier properties
[d] all the above

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