Se		ment No		
	GUJARAT TECHNOLOGICAL UNIV			
<b>U</b>			1/12/2016	
		Date:31/12/2016		
Su	ibject Name: Chemical Engineering Materials			
Time:10:30 AM to 01:00 PM		Total Marks: 70		
Ins	structions:			
	1. Attempt all questions.			
	2. Make suitable assumptions wherever necessary.			
	3. Figures to the right indicate full marks.			
		M	IARK	
	Short Questions		14	
1	What is an atom?			
2	Name sub atomic particles.			
3	What is a solid material?			
4	What is meant by the term plasticity?			
5	What are semi-conductors?			
6	Give the full form of BIS.			
7	What are plastics?			
8	Name few refractive materials.			
9	Wet corrosion is due to which type of atmosphere?			
10	Mention different routes of dry corrosions.			
11	Write structural formula of Polyethylene and PVC.			
12	Ageing of rubber takes place due to which component?			
13	Give one property of Teflon.			
14	Name thermal processes for steels.			
(a)	Explain Atomic structure with diagram.		03	
<b>(b)</b>	Explain bonding in solids.		04	
(c)	Show arrangements and packing of Crystal structure.		<b>07</b>	
	OR			
(c)	Explain various properties of engineering material with suitable e	xample.	<b>07</b>	
(a)	Write a note on Insulators.		03	
<b>(b)</b>	Classify powder and fluid metallurgy.		04	
(c)	Explain coordination number with suitable example. Explain alor <b>OR</b>	g with crystal defects.	07	
(a)	Define: Paint, Varnish and Super conductivity		03	
<b>(b)</b>	Explain ionic and electrical conductivity in metals.		04	
<b>(c)</b>	Explain applications, merits and demerits of powder metallurgy.		<b>07</b>	
(a)	Mention various types of oils with suitable examples.		03	
<b>(b)</b>	Give classifications of paints and varnishes.		04	
(c)	Explain various thermal processes of metals and alloys.		<b>07</b>	
	OR			
(a)	Write short note on Ceramics.		03	
<b>(b)</b>	What are Refractories? Classify them.		04	

What is meant by the term Composites? Mention characteristics of composites in details.

Mention the properties and applications of PVC.

Explain manufacturing of Cements.

Give the mechanism of wet corrosion.

How can the corrosion be prevented? Explain various methods.

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Write short note on Corrosion.

Write a note on Thermo plastics.

**Q.1** 

**Q.2** 

**Q.3** 

**Q.3** 

**Q.4** 

**Q.4** 

**Q.5** 

**Q.5** 

**(c)** 

(a)

**(b)** 

**(c)** 

(a)

(c)

1

**07** 

03

04

**07** 

03

04

**07**