

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – III • EXAMINATION – WINTER- 2016

Subject Code: 3330501**Date: 19-11-2016****Subject Name: Chemical Engineering Materials****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.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1 Answer any seven out of ten. 14
1. Define Melting Point and Boiling Point.
 2. List out types of corrosion.
 3. Write uses of refractories.
 4. Define Polymer and Polymerization.
 5. Write the uses of nickel.
 6. Define Stress & Strain.
 7. Define Plastic and Rubber.
 8. Define Specific Heat & Thermal Conductivity.
 9. Define Corrosion.
 10. Define Paint and Varnish.
- Q.2 (a) Describe scope of material science in chemical process industry. 03
- OR
- (a) Write down general properties and uses of brass. 03
- (b) Explain principle of selection of materials. 03
- OR
- (b) Give general composition of china clay and fire clay. 03
- (c) List out various factors which affecting the corrosion rate. 04
- OR
- (c) Explain electro-chemical corrosion. 04
- (d) Describe any one method for control and prevention of corrosion. 04
- OR
- (d) Differentiate: Ferrous and Nonferrous metals. 04
- Q.3 (a) Explain properties and uses of aluminium. 03
- OR
- (a) Write down properties and uses of Metal Matrix Composites (MMC). 03
- (b) Write short note on Ceramic Matrix Composites (CMC). 03
- OR
- (b) Give difference between wrought iron and cast iron. 03
- (c) Write down general properties of mild steel and stainless steel. 04
- OR
- (c) Write down uses of soda lime glass and fiber glass. 04
- (d) Differentiate addition and condensation polymerization. 04
- OR
- (d) Define glass and list out the names of various types of glass. 04
- Q.4 (a) Differentiate Natural Rubber and Synthetic Rubber. 03
- OR

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| | (a) Classify Synthetic lubricants. | 03 |
| | (b) Explain properties and uses of adhesives. | 04 |
| | OR | |
| | (b) Write down properties and importance of ingredients of paints. | 04 |
| | (c) Explain vulcanizing of rubber. | 07 |
| Q.5 | (a) Draw neat and clean figure of blast furnace. | 04 |
| | (b) Write an application of thermal insulation. | 04 |
| | (c) Draw only the figure of galvanic corrosion. | 03 |
| | (d) Give classification of paint. | 03 |

-----*Best Wishes*-----