

GUJARAT TECHNOLOGICAL UNIVERSITY
Diploma Engineering - SEMESTER-VI • EXAMINATION – WINTER • 2016

Subject Code: 3362305**Date:** 26 -10-2016**Subject Name:** Secondary Processing Techniques**Time:** 10:30 am - 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. List the plastic processes used to produce plastic sheet.
 2. Explain the working principle of calendaring technique.
 3. Give the name of mould materials used for casting mould.
 4. Write the applications of encapsulation process.
 5. Give the full name of DMC, BMC, SMC & TMC.
 6. Classify the various fibers used in fiber reinforced plastic (FRP) process.
 7. List the different vinyl dispersion coating processes.
 8. Name the ingredients used to prepare Plastisol.
 9. Give the classification of blowing agents for foam process.
 10. List the plastic materials used in foam process.
- Q.2** (a) List the types of calendars and explain any one. **03**
- OR
- (a) Explain briefly, various heating systems used in calendaring process. **03**
- (b) Compare calendaring process with sheet extrusion process. **03**
- OR
- (b) Write various applications of casting technique. **03**
- (c) Draw a neat sketch of plant layout for calendaring process. **04**
- OR
- (c) Explain any two problems associated with calendaring process; its causes and appropriate remedies. **04**
- (d) Explain the casting process in brief. **04**
- OR
- (d) List the merits and demerits of casting technique. **04**
- Q.3** (a) Explain the importance of preprag in FRP process. **03**
- OR
- (a) List the various applications of FRP technique in different fields. **03**
- (b) Discuss the resin selection criteria for vinyl dispersion process. **03**
- OR
- (b) Explain the roll coating process as a vinyl dispersion technique. **03**
- (c) Explain the spray lay-up process with the help of figure. **04**
- OR
- (c) Describe the filament winding process. **04**
- (d) Explain the advantages and disadvantages of FRP process. **04**
- OR

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| | (d) | Describe the dip coating and dip moulding process in brief. | 04 |
| Q.4 | (a) | Explain about any one chemical blowing agent used in foam process. | 03 |
| | | OR | |
| | (a) | List the advantages of foam process. | 03 |
| | (b) | Describe the expanded poly styrene (EPS) manufacturing technique. | 04 |
| | | OR | |
| | (b) | Write the applications of foam process in various fields. | 04 |
| | (c) | Describe advantages, disadvantages and applications of calendaring process. | 07 |
| Q.5 | (a) | Explain the encapsulation process in brief. | 04 |
| | (b) | Write short note on the resin transfer moulding (RTM). | 04 |
| | (c) | Explain the slush moulding process. | 03 |
| | (d) | Differentiate open cell structure with closed cell structure of foam product. | 03 |
