GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION - WINTER 2015

Subject Code: 172601 Date:12/12/2015 Subject Name: Rubber Equipment Design-II **Time: 10:30am to 1:00pm Total Marks: 70** Instructions: 1. Attempt all questions. Make suitable assumptions wherever necessary. 2. 3. Figures to the right indicate full marks. (14) **Q.1** Answer the following. (i) Write the disadvantages of Plain feed hopper in single screw Extruder. (ii) "Leakage flow is undesirable in Extrusion process." Justify the statement. Importance of Dwell pins & Parting line for designing a Compression (iii) Mould. How the internal cavity pressure defined? Write its approximate value for (iv) general, thin & thick product. Why possibilities of material stagnation are likely to be more in Offset Die **(v)** design? Write the importance of Chrome plating for Mold. (vi) What do you mean by (a) Shot Capacity (b) Locking Force in terms of (vii) **Injection Molding Machine?** Q.2 The Die channel is made up with how many sections? List the name of it (07) (a) and explain all in detail. Short note on Materials for Die Construction. (07) **(b)** OR **(b)** Describe in detail about Die Swell. (07) Q.3 Explain about effects of Screw and Barrel temperatures in Extruder. (07) **(a)** Discuss the Extruded final products related problems, their causes and **(b)** (07) remedies. OR Explain in detail about Flow mechanism in Extruder. Q.3 (07) **(a) (b)** How the cooling takes place in the extruder? Explain in detail. (07) **Q.4** (a) Discuss in detail about 'Cryogenic deflashing'. (07) Explain about Rubber flow in Transfer Mold. (07) **(b)** OR **Q.4** Discuss in detail about Thermal Considerations for Compression (07) **(a)** Molding. Write the importance of Runner in Transfer Mold. In designing of **(b)** (07) runner, which points should be considered? Explain all points in detail. Q.5 "Screw speed control the heating and plasticity of rubber during first **(a)** (07) stage of injection". Explain this statement in detail. Write a note on Mold Venting & Flashless Molding. (07) **(b)** OR Discuss the factors which should be considered while determining the Q.5 (08) (a) number of cavities in Injection Mould?