

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023**

**Subject Code: 3162603**

**Date:02-12-2023**

**Subject Name: Rubber Equipment Design**

**Time:02:30 PM TO 05:00 PM**

**Total Marks:70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1 (a) Write about the principle of mixing. (03)**  
**(b) Give the advantages and disadvantages of two roll mill. (04)**  
**(c) Discuss in detail about the different Internal mixing method. (07)**

- Q.2 (a) List out the constructional components of Calendar. (03)**  
**(b) Draw the different configuration of Calendar. (04)**  
**(c) List out the types of presses and their specifications and explain any one in detail. (07)**

**OR**

- (c) Draw the mechanism of Ram Driving and discuss in detail. (07)**

- Q.3 (a) Mention the properties require for Sprue Bush. (03)**  
**(b) List out the factors affecting design of mold. (04)**  
**(c) Discuss in detail about the different design of Gate. (07)**

**OR**

- Q.3 (a) Give the importance of Strength of Cavity. (03)**  
**(b) Draw the different design of Runner cross section. (04)**  
**(c) Discuss in detail about factors affecting shrinkage. (07)**

- Q.4 (a) Define the terms : (i) Pitch (ii) Lead (iii) Die Swell (03)**  
**(b) Explain the different practical aspect of Die design. (04)**  
**(c) Discuss in detail about the heating and cooling elements used in Extruder. (07)**

**OR**

- Q.4 (a) Mentions the different materials used for construction of Die. (03)**  
**(b) Give the difference between Hot feed extruder and Cold feed Extruder. (04)**  
**(c) Discuss in detail about the action of the Screw. (07)**

- Q.5 (a) List out the parts of conventional Injection mold. (03)**  
**(b) Give the importance of Bolster. (04)**  
**(c) Discuss in detail about cryogenic deflashing. (07)**

**OR**

- Q.5 (a) Give the comparison of FIFO and FILO. (03)**  
**(b) Draw the different types of Injection unit and explain any one in detail. (04)**  
**(c) Draw the diagram of transfer molding process and explain in detail. (07)**

\*\*\*\*\*