

Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



IV SEMESTER B.TECH (AUTOMOBILE ENGINEERING) END SEMESTER EXAMINATIONS, MAY 2016

SUBJECT: AUTOMOTIVE PRODUCTION TECHNOLOGY [AAE 2253]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ✤ Answer ALL questions.
- Missing data may suitably assumed.
- Draw sketches in PENCIL only
- **1 A** Explain fusion welding and resistance welding with suitable example **(3)** and applications.
- **1 B** What is the principle of material removal in Electric Discharge **(2)** Machining process? Explain how the spark is generated in the process? Enumerate three important parameters of the process.
- **1 C** Enumerate and explain five characteristics of powder in PM process. **(5)**
- **2 A** What is permeability? Explain with neat sketch permeability test **(3)** carried out on sand specimen. What are the factors on which permeability depends?
- **2 B** With neat sketch explain the significant features of angles of wire **(5)** drawing die. What are the material recommended for the die? Discuss the advantages of drawing die.
- 2 C Explain why metals are worked mechanically? Discuss its advantages. (2)
- **3 A** Explain ring rolling process. Discuss the role of pressure roll and guide **(3)** roll. Enumerate its applications.

- **3 B** Explain difference between progressive die and compound die with **(3)** example.
- 3 C What is the need of non-destructive test? Classify non-destructive test. (4)
 Explain with neat sketch how magnetic particle test is carried out?
 What are the advantages and limitations of magnetic particle test?
- **4** A Identify a casting process which uses wax as pattern material. Explain **(5)** with neat sketch the casting process, its features, and advantages.
- **4 B** Discuss with neat sketch hydrostatic extrusion process, its advantages **(5)** and limitations. Which hydrostatic fluid you recommend for this process?
- **5** A Explain Solid Base Curing process in six steps. (3)
- **5 B** Explain with neat sketch 'spring back'. How it can be compensated? (2)
- **5 C** Discuss with neat sketch 'Wavy edges and zipper cracks' w.r.t defects **(5)** in rolling. What are the causes for these defect? What remedy you recommend to overcome these defects.