

(Following Paper ID and Roll No. to be filled in your
Answer Books)

Paper ID : 199244

Roll No.

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B.TECH.

Theory Examination (Semester-II) 2015-16

MANUFACTURING SCIENCE

Time : 3 Hours

Max. Marks : 100

Note : Attempt all questions from all sections as per instructions.

Section-A

- 1. Attempt all parts from this question. Each question carries 2 Marks. (2×10=20)**

- (a) Define Stress and Strain.
- (b) What is tool steel?
- (c) What is hot working?
- (d) What is counter boring?
- (e) What is facing operation?

- (f) What is straight and reverse polarity?
- (g) Mention the design parameters in case of forging.
- (h) What is the use of core in casting?
- (i) Define welding.
- (j) What is Moulding?

Section-B

2. Attempt any five questions from this section. Each question carries 10 Marks. (10×5=50)

- (a) Define the following mechanical properties:
 - (i) Elasticity
 - (ii) Plasticity
 - (iii) Stiffness
 - (iv) Malleability
 - (v) Toughness
- (b) What are the purposes of heat treatment? Also discuss normalizing and case hardening processes.
- (c) Differentiate between shaper and planer machine.

- (d) Explain gating system used in casting with the help of neat diagram.
- (e) What is powder metallurgy? Define sintering and blending.
- (f) Explain the shaper machine and its parts.
- (g) What is creep? Define various stages of creep. Discuss effect of temperature on creep curve.
- (h) What is fatigue? Draw and discuss the S-N curve.

Section-C

Note: Attempt any two questions from this section. Each question carries 15 Marks. (15×2=30)

- 3. What are different types of patterns used in casting? Explain with neat diagrams.
- 4. Explain Lathe machine with the help of a neat sketch. Also discuss various lathe operations with diagrams.
- 5. Explain Extrusion and drawing processes along with their types. Differentiate between Direct and Indirect Extrusion. Also give merits and demerits of extrusion and drawing process.