

Total No. of Questions : 8]

[Total No. of Printed Pages : 3

Roll No

AU/IP/ME-303-CBGS

B.Tech., III Semester

Examination, June 2020

Choice Based Grading System (CBGS)

Materials Technology

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

iii) In case of any doubt or dispute the English version question should be treated as final.

1. a) What is space lattice? Explain the lattice parameter of unit cell.
b) What is fatigue and creep? Explain briefly.
2. a) Explain the terms austenite and martensite? How they formed?
b) Explain the various types of cast iron with their uses and applications.

AU/IP/ME-303-CBGS

PTO

[2]

3. a) Explain why carburizing heat treatment is generally done on low carbon steel?

b) State the effect of tempering temperature on the mechanical properties of steel.
4. a) Discuss the different types of hardness test.

b) Explain in brief the dye penetration test.
5. a) What is spot test? How it is use for determination of a specific metal?

b) Write a brief note on the determination of metals using spectrophotometric analysis.
6. a) Define the term atomic packing factor. Calculate its value for simple cube, body centered cube, face centered cube.

b) Draw and explain the time temperature transformation curve.

&

AU/IP/ME-303-CBGS

Contd...

[3]

7. a) What is cyaniding? Explain briefly.
 - b) What are the commercial alloys of aluminum? Explain briefly.
-
8. Write a short note of the following:
 - a) Spherodising
 - b) Shear test
 - c) Ductility

AU/IP/ME-303-CBGS