

Government College Of Engineering, Aurangabad
(An Autonomous Institute Of Government Of Maharashtra)

End Semester Examination 2016-2017

ME344: ENGINEERING MATERIALS & METALLURGY

1.9 NOV 2016

Max Marks: 60

Time: Three Hours

“ Verify the course code and check whether you have got the correct question paper”

NB:-

- 1 All questions are Compulsary.**
- 2 Figures to the right indicate full marks.**
- 3 Assume suitable data if necessary and state it clearly**
- 4 Use of non-programmable Calculator is allowed.**

- Q.1 Attempt any two 12 Marks**
- i) Explain Charpy Impact Test with specimen fixing arrangement?
 - ii) Explain Gibbs Phase Rule as applied to solidification of pure metals?
 - iii) What is Creep in metals? Explain in detail?
- Q.2 Attempt any two 12 Marks**
- i) Draw and explain Equilibrium Diagram for Eutectic System?
 - ii) Explain and give classification of Non-Ferrous Materials?
 - iii) Draw Iron –Carbon Equilibrium Diagram and explain the various phases and compounds existing in the diagram?
- Q.3 Attempt any two 12 Marks**
- i) What are composite Materials ? Explain Fibre reinforced Materials?
 - ii) Draw and explain Maurers Diagram for Cast Iron?
 - iii) What are Malleable White cast irons and explain heat treatment?
- Q.4 Attempt any two 12 Marks**
- i) Explain the purpose and process of Annealing heat treatment process?
 - ii) Draw and explain Jominey End Quench test for Hardenability of steels?
 - iii) Explain Carbonitriding heat treatment with merits and demerits?
- Q.5 Attempt any two 12 Marks**
- i) Explain Galvanising treatment in detail?
 - ii) Explain Aluminium and its Alloys?
 - iii) Write short note on Al-Si Alloys?

