CT-I III sem. MECH. MEU301: Material Science & Engg. Time: 1hr. Max. Marks: 15

Solve any three. All questions carry equal marks.

Q1: Draw BCC unit cell. State its examples. Calculate its effective no. of atoms, coordination number and its packing efficiency. [5]

Q2: What are solid solutions? Describe its types with neat sketches. [5]

Q3: Draw Fe-C equilibrium diagram. Label its phases. Write invariant reactions occurring in it. [5]

Q4: What are the limitations of plain carbon steels? Describe the effects of alloying elements. Draw neat sketches. [5]

Third Sem. Mech. CT1 Materials Science & Engineering MEU301 Max. Marks:15

Solve any three. All questions carry equal marks. Time:1hrs.

Q1: Draw Fe-Fe_3C equilibrium diagram. Label its phases.

Q2: Calculate effective no. of atoms, coordination no. and packing efficiency of BCC unit cell.

Q3: What are solid solutions? Describe its various types.

Q4: Draw and explain eutectic phase diagram with reactions. Give examples of eutectic alloys.

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CT 1 Third Sem. MEU301 Materials Science & Engineering

Solve any three. All questions carry equal marks. Max. Marks: 15 Time: 1 hr.

Q1: Draw a neat iron-carbon equilibrium diagram. Label its phases.

Q2: Draw a FCC unit cell and calculate its effective no. of atoms, coordination no. and packing efficiency.

Q3: What are crystal defects? With neat sketches describe its various types.

Q4: What are solid solutions? Describe its types with neat sketches.