

## **MAE 20 Second Progress Exam**

### **Question 1 Homework(HW 4-7)**

5-13, 21, 33, 36.

9-3, 12, 20, 27.

10-19, 21, 25, 40.

11-8, 14, 16, 18.

### **Question 2 Example from book (Chapters 4, 5, 9, 10, 11)**

4.8

5.1, 2, 3, 4, 5, 6, 7

9.1, 2, 3, 4

10. 6, 7, 8, 9

11.1, 2, 3, 4, 5

### **Question 3 Conceptual/derivation**

Hall-petch equation

Point defects

Edge & Screw dislocations

Fick's First & Second law

Cooling Curves

Homogeneous nucleation

Chvorinov's rule

Casting process

Phase rule & unary phase diagram, P-T diagram

Isomorphous phase diagram

Phase diagrams with three-phase reaction (5 reactions)

Solidification and microstructure

### **Question 4 ( wildcard- anything)**