

Total No. of Printed Pages:1

SUBJECT CODE NO: H-1770
FACULTY OF SCIENCE AND TECHNOLOGY
M.E. (Mechanical)
Modern Engg. Materials
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

N.B Please check whether you have got the right question paper.

- N.B
- i) Solve any three questions from each section.
 - ii) Assume suitable data wherever required.
 - iii) Draw neat sketch wherever required.
 - iv) Figure to right indicates full marks.

Section A

- | | | |
|-----|---|----|
| Q.1 | a) Steel alloy tool steel is used in manufacturing of tools widely. Explain. | 07 |
| | b) Justify the name micro alloyed steels. | 06 |
| Q.2 | a) Describe the effect of increasing tin content on properties of tin bronze. | 07 |
| | b) Explain what is age hardening phenomenon in Aluminium alloys. | 06 |
| Q.3 | What is metal matrix composites? Explain with example. | 13 |
| Q.4 | Write short note <u>on any two</u> . | 14 |
| | i) Matrix in Composites | |
| | ii) Designation system in Al-Alloys | |
| | iii) Ball bearing steel | |

Section B

- | | | |
|-----|---|----|
| Q.5 | a) What is critical volume fraction? State its significance. | 07 |
| | b) How orthographic lamina is analysed? Explain. | 06 |
| Q.6 | a) Importance of polymer products is increasing nowadays explain why. | 07 |
| | b) Distinguish between plastic and elastomers. | 06 |
| Q.7 | a) What are electronic ceramics? Explain. | 07 |
| | b) Refractories are used in high temperature applications justify. | 06 |
| Q.8 | Write short note <u>on any two</u> | 14 |
| | i) Abrasive ceramics | |
| | ii) Hybrid composite | |
| | iii) Rule of mixture | |