

- Q.27 Define Plasting coatings & various methods used for coating
- Q.28 Write a short note on heat insulating materials with examples
- Q.29 Define Ceramics? Also list their properties and applications
- Q.30 Name few properties and uses of Asbestos
- Q.31 Write a short note on Nuclear materials
- Q.32 Explain in brief Refractory materials
- Q.33 Name few mechanical and thermal properties of various materials
- Q.34 Explain in brief types of crystals structures
- Q.35 Explain in brief type of Heat treatment furnances.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain Iron carbon diagram with neat sketch
- Q.37 Define Composites material? Explain its types along with its applications
- Q.38 Write a short note on any two:
- Tool and die materials
 - Thermoplastic and thermosettings
 - Non ferrous metals

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2nd Sem / Mech. Engg. (MSIL) Subject:- Materials and Metallurgy

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Corrosion is
- Decay of metal due to reaction with environment
 - Both (a) and (c)
 - accumulation of metal
 - None of above
- Q.2 Brass is an alloy of
- Tin and lead
 - aluminum and copper
 - Copper and Zinc
 - None of above
- Q.3 Gold has _____ type of structure
- S.C
 - F.C.C
 - B.C.C
 - All of the above

- Q.4 Fatigue results in
a) elongation c) ductile fracture
b) brittle fracture d) crack formation
- Q.5 Cast iron is produced from furnace known as
a) Blast furnace c) open hearth furnace
b) Cupola furnace d) None of the above
- Q.6 The impurest form of iron is
a) cast iron c) pig iron
b) Wrought iron d) None of the above
- Q.7 Copper pyrite is an ore of
a) Copper c) cast iron
b) aluminium d) all of these
- Q.8 Nitrogen is introduced in steel in passing ammonia gas through muffle furnace is the process known as
a) Carburizing c) Nitriding
b) Cyaniding d) None of these
- Q.9 Trade name of polytetrafluoroethylene (PTFE) is
a) Beetle c) teflon
b) bakelite d) None of these
- Q.10 Ply board is an example of
a) particle reinforced composite
b) structured composite
c) fibre reinforced composite
d) All of the above

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Define biomaterials
- Q.12 Name any one semiconducting material.
- Q.13 Define hcp crystal structure
- Q.14 What is fatigue
- Q.15 Name any two non ferrous metals
- Q.16 Name any one iron ore
- Q.17 Give an example of white metals
- Q.18 Name few sources of plastics
- Q.19 Define thermosetting plastic
- Q.20 Define bearing metals

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Classify engineering materials in brief.
- Q.22 Explain deformation and its types
- Q.23 Explain flow diagram for production of iron and steel
- Q.24 Explain types of cast iron with its usage.
- Q.25 What is purpose of Heat treatment
- Q.26 Define case hardening and its types in brief