

- Q.27 List electrical properties of materials.
 - Q.28 Discuss thermal properties of materials.
 - Q.29 Explain water of plasticity.
 - Q.30 Write short note on Electronic configuration of atoms.
 - Q.31 Define point & fine defects.
 - Q.32 Explain di-electric behavior of materials.
 - Q.33 Differentiate between the creep and fatigue failure.
 - Q.34 Differentiate hard and soft magnetic materials.
 - Q.35 Differentiate ductile and brittle fracture.

SECTION-D

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

- Q.36 Explain the unit cell crystal system and indices with diagram.

Q.37 Explain Al_2O_3 - SiO_2 phase diagram and write its importance in ceramic industry.

Q.38 Explain Mechanical properties of ceramic product.

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3rd Sem / Ceramic Subject:- Ceramic Science

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.6 Kaolin is represented by chemical formula _____
 a) $\text{Al}_2\text{O}_3\text{SiO}_2$ b) $\text{Al}_2\text{O}_3\text{SiO}_2\text{H}_2\text{O}$
 c) $\text{Al}_2\text{O}_3\text{SiO}_2$ d) $\text{Al}_2\text{O}_3\text{SiO}_2\text{H}_2\text{O}$
- Q.7 The atoms are arranged in _____ manner, in crystalline materials.
 a) Randomly b) Regular
 c) Haphazardly d) None of the above
- Q.8 The failure of a material due to cyclic or reversing loads is called _____
 a) Creep b) fatigue
 c) brittle failure d) ductile failure
- Q.9 In FCC structures of crystal, there are _____ number of atoms per unit cell
 a) 2 b) 8
 c) 4 d) 18
- Q.10 Hard magnetic materials are _____ to magnetize.
 a) easy b) difficult
 c) both a & b d) none of these

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 The p-orbital contains maximum _____ no. of electrons.(2/6)
- Q.12 Example of binary phase diagram is alumina and silica phase diagram. (True/False)

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- Q.13 Number of components in unary phase diagram is one. (True/False)
- Q.14 Which magnets have higher coercive force value? (soft/hard)
- Q.15 Example of line defect is _____
- Q.16 The crystalline solids have regular arrangements of atoms. (True/False)
- Q.17 X-Ray can be used to determine crystal structure of materials. (True/False)
- Q.18 Ionic bond is formed by transfer of electrons between two atoms. (True/False)
- Q.19 Hard magnetic materials can be easily demagnetized. (True/False)
- Q.20 Coordinate bond is formed by sharing of electrons between two atoms. (True/False)

SECTION-C

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

- Q.21 Enlist different types of bond. Explain any one.
- Q.22 Explain creep behavior.
- Q.23 Explain Gibbs phase rule.
- Q.24 Explain space lattice and unit cell.
- Q.25 Explain water system.
- Q.26 Explain magnetizing force.

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