

- Q.22 Discuss structure of silica.
 Q.23 Draw Na_2O - SiO_2 phase diagram.
 Q.24 Discuss atomic structure of sodium.
 Q.25 Define screw and edge dislocations.
 Q.26 Discuss applications of phase rule.
 Q.27 Differentiate crystalline and amorphous materials.
 Q.28 Differentiate creep and fatigue fracture.
 Q.29 Enlist thermal properties of materials.
 Q.30 Differentiate ionic and covalent bonding.
 Q.31 Discuss atomic structure of sodium.
 Q.32 Differentiate ductile and brittle fracture.
 Q.33 Name mechanical properties of materials.
 Q.34 Explain casting slips.
 Q.35 Discuss magnetic flux and flux density.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 10 = 20)$

- Q.36 Draw and explain in Al_2O_3 - SiO_2 phase diagram.
 Q.37 Explain electrical properties or thermal properties of materials.
 Q.38 Explain different types of chemical bonds.

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3rd Sem / Ceramic Subject:- Ceramics Science

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory $(10 \times 1 = 10)$

- Q.1 _____ is formed by transfer of electrons between two atoms.
 a) Covalent Bonding b) Ionic Bonding
 c) Hydrogen Bonding d) All of the above
- Q.2 Clay show plasticity when water is _____
 a) Added b) Removed
 c) Dried d) None of the above
- Q.3 Which of the following defects are found in ceramic solids?
 a) Point b) Line
 c) Surface d) All of these
- Q.4 _____ is the example of Binary phase diagram.
 a) Water system b) Alumina-silica
 c) Soda-lime-silica d) Oxygen system

Q.5 Soft magnetic materials are

- a) Easy to magnetise
- b) Difficult to magnetise
- c) Both a and b
- d) None of the above

Q.6 Vacancies defect is an example of

- a) Surface defect b) Line defect
- c) Point defect d) None of the above

Q.7 Strongest bond is_____

- a) Covalent Bonding b) Ionic Bonding
- c) Hydrogen Bonding d) Co-ordinate Bond

Q.8 Which of the following falls under thermal properties?

- a) Heat Capacity b) Thermal Expansion
- c) Specific Heat d) All of the above

Q.9 Coercive force value is greater for

- a) Hard magnets b) Soft magnets
- c) Both a and b d) None of the above

Q.10 A change in property of a material due to heat is known as

- a) Physical b) Chemical
- c) Thermal d) Mechanical

SECTION-B

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

Q.11 Ionic bond is strongest bond. (True/False)

Q.12 The formula of kaolin is_____.

Q.13 Alumina-Silica phase diagram is an example of binary phase diagram. (True/False)

Q.14 Soft magnetic materials can be easily demagnetized. (True/False)

Q.15 Ionic bond is formed by transfer of electrons between two atoms. (True/False)

Q.16 Maximum number of electrons in d-orbital is_____. (2,10)

Q.17 In simple cubic crystal system atoms occupy corners positions. (True/False)

Q.18 The stress experienced by thermal contraction or expansion is called thermal stress. (True/False)

Q.19 Vacancy is a type of_____ defect. (Point, line)

Q.20 Brittle fracture involves fracture of materials without apparent plastic deformation. (True/False)

SECTION-C

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

Q.21 Discuss water of plasticity of clay.