Q.30 Explain water system, phase diagram.

Q.31 Discuss atomic structure of sodium.

Q.32 Name thermal properties of materials.

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. (3x10=30)

Q.33 Explain alumina silica phase diagram.

Q.34 Explain the determination of cell structure with the help of Bragg's law.

Q.35 Explain magnetic properties of materials.

Q.36 Explain point and line defects.

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3rd Sem. / Ceramic Engg.

Subject : Ceramic Science

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 Maximum number of electrons in p-orbital is _____.

Q.2 Ionic bond is strongest bond. (True/False)

Q.3 The montmorillonite clay mineral is highly plastic. (True/False)

Q.4 The formula of kaolin is _____.

Q.5 In crystalline solids atoms are arranged in regular fashion. (True/False)

Q.6 Alumina-Silica phase diagram is an example of binary phase diagram. (True/False)

Q.7 In simple cubic crystal system all sides are same. (True/False)

Q.8 Hard magnetic materials can be easily demagnetized. (True/False)

Q.9 Resistance is the opposing force offered by a material to flow of electric current. (True/False)

Q.10 Ionic bond is formed by transfer of electrons between two atoms. (True/False)

SECTION-B

Note: Very short answer type questions. Attempt any ten questions out of twelve questions. (10x2=20)

Q.11 Write Gibbs phase rule.

Q.12 Name two thermal properties of materials.

Q.13 Define chemical bond.

Q.14 Give example of one component system.

Q.15 Define conductance.

Q.16 Tell name of bonds.

Q.17 Define unit cell.

Q.18 Define covalent bond.

Q.19 Define heat capacity.

Q.20 Write electronic configuration of Nitrogen atom.

Q.21 Define space lattice.

Q.22 Tell formula of montmorillonite.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

Q.23 Explain theory of valence.

Q.24 Discuss water of plasticity of clay.

Q.25 Explain amorphous materials.

Q.26 Discuss structure of silica.

Q.27 Explain elasticity and plasticity properties of materials.

Q.28 Draw Na_2O-SiO_2 phase diagram.

Q.29 Explain Bragg's law for determining cell structure.