Q.26 Explain the crystal structure of superconductor.

Q.27 Differentiate modern and traditional ceramics.

Q.28 Give classification of modern, ceramics.

Q.29 List applications of super conductors.

Q.30 Draw flow diagram for manufacturing of thermistors

Q.31 Differentiate soft and hard ferrites.

Q.32 Explain in brief Meissner Effect.

Q.33 Explain in brief thick film capacitor?

Q.34 Give applications of soft ferrites.

Q.35 What are the capacitor.

SECTION-D

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

Q.36 Explain manufacture of multilayer ceramics.

Q.37 What are bio-ceramics? Describe briefly about preparation, properties and application bio-ceramics.

Q.38 Define nuclear reactor. Name ceramics materials used in various parts of nuclear reactor.

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Sub.: Modern Ceramics

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SECTION-A

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

Q.1 Examples of ceramic material used in safety rods is

a) Refractory borides
b) Rare earth metal oxide
c) Boron carbides
d) All of these

Q.2 Modern Ceramics does not include

a) Super conductor b) Ceramic tiles
c) Bio ceramics d) All of these

Q.3 Dental Ceramics include

a) Tooth Cap b) Tooth
c) Tooth cavity d) All of these

Q.4 PTC Stands for

a) +ve temp conductor
b) +ve Thermal Coefficient
c) Permanent temp change
d) None of these

Q.5 Heat energy can be obtained by

a) Nuclear conductivity b) Nuclear insulator

c) Nuclear resistance d) Nuclear fission

Q.6 Bio ceramics are materials which are used for _____ diseased body parts.

a) Repair b) Reconstruction

c) Both A & B d) None of these

Q.7 Superconductors can be used in

a) Transmission b) Power generation

c) Mobile towers d) All of these

Q.8 In nuclear reactor speed of fast moving neutrons are controlled by

a) Control rods b) Moderators

c) Coolant d) None

Q.9 Varistors are used in

a) Timers b) Computers

c) None of these d) In Both A & B

Q.10 The newer ceramic are fabricated (shaped) by

a) Isostatic pressing b) hot pressing

c) Tape casting d) All of these

SECTION-B

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

Q.11 Quartz is used in dental ceramics. (true/false)

Q.12 Control rod is used in nuclear reactor to control the reaction. (true/false)

Q.13 Pyroelectic materials are used in burglar alarms. (true/false)

Q.14 Moderators are used to stop nuclear reactors. (true/false)

Q.15 Resistance of super conductor is Zero (true/false)

Q.16 Super conductor is example of modern ceramics. (true/false)

Q.17 PZT means Lead Zirconale Titanate. (true/false)

Q.18 Isostatic pressing is used to shape ceramic materials. (true/false)

Q.19 Varistor is a sensor. (true/false)

Q.20 Hard ferrites are used in making speakers. (true/false)

SECTION-C

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

Q.21 Explain the properties of super conductor.

Q.22 Explain properties of Barium Titanate.

Q.23 Describe manufacture of hard ferrites.

Q.24 List any five function of control rods.

Q.25 Give names of four types of nuclear reactors?