

- Q.29 Give names of four types of nuclear reactors?
  - Q.30 Explain the phenomenon of Piezoelectric.
  - Q.31 Explain developing of high super conductivity.
  - Q.32 Give the classification of modern, ceramics.
  - Q.33 Explain in brief thick film capacitor?
  - Q.34 Explain the meissner effect.
  - Q.35 Draw flow diagram for manufacturing of thermistors.

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## **5th Sem., Branch : Ceramic Subject : Modern Ceramics**

Time : 3 Hrs.

M.M. : 100

## **SECTION-A**

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

## **Section-D**

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

- Q.36 Explain manufacture of multilayer capacitor.

Q.37 Define nuclear reactor and name ceramics materials used in its various parts.

Q.38 Explain manufacture of Ferrites.

- Q.1 Modern Ceramic material are used in

  - a) Space
  - b) Automobile
  - c) Nuclear reactors
  - d) In all of these

Q.2 Superconductor can be used in

  - a) Transmission
  - b) Power generation
  - c) Mobile towers
  - d) All of these

Q.3 Hard ferrites have

  - a) Low power loss
  - b) Low resonance
  - c) Low Coercivity
  - d) High Coercivity

Q.4 Bio ceramics are materials which are used for \_\_\_\_\_ diseased body parts.

  - a) Repair
  - b) Reconstruction
  - c) Both A & B
  - d) None of these

Q.5 Function of control rod in nuclear reactor is to

  - a) Start nuclear reactor
  - b) Stop reactor
  - c) Absorb electrons
  - d) All of these

- Q.6 Which of the following product is not modern ceramics  
 a) Wall tiles                  b) Floor tiles  
 c) Sanitary ware              d) All of these
- Q.7 Which sensor is used to protect devices from over voltage?  
 a) Thermistors                b) Resistors  
 c) Pyroelectric                d) Variastors
- Q.8 The newer ceramic are fabricated (Shaped) by  
 a) Isostatic pressing        b) Hot pressing  
 c) Tape casting                d) All of these
- Q.9 Varistors are used in  
 a) Timers                    b) Computers  
 c) None of these            d) In both A & B
- Q.10 PTC stands for  
 a) +ve temp conductor  
 b) +ve thermal coefficient  
 c) Permanent temp change  
 d) None of these
- Q.13 Resistance of super conductor is Zero. (True/False)
- Q.14 Speed of fast moving neutrons is controlled by moderators. (True/False)
- Q.15 Soft ferrites are anti ferromagnetic material. (True/False)
- Q.16 Ferrite is a example of modern ceramic material. (True/False)
- Q.17 Quartz is used in dental ceramics. (True/False)
- Q.18 Isostatic pressing is used to shape ceramic materials. ((True/False))
- Q.19 Pyroelectric materials are used in burglar alarms. (True/False)
- Q.20 Dielectric materials have high thermal conductivity. (True/False)

### Section-B

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

- Q.11 Nuclear fission reaction takes place nuclear reactor. (True/False)
- Q.12 Thermistor is temperature sensitive resistor. (True/False)

### Section-C

- Note:** Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)
- Q.21 Explain the difference between newer and conventional ceramics materials?
- Q.22 List functions of ceramic control rods.
- Q.23 Explain the properties of super conductor.
- Q.24 Name the ceramics materials used in various parts of nuclear reactors?
- Q.25 Define Ferrites.
- Q.26 Explain the properties of Barium Titanate.
- Q.27 Explain in brief manufacture of bioceramics.
- Q.28 What is the capacitor and how it works.