

1. Thermal stability of a material can be assessed using
 - a) IR spectroscopy
 - b) Thermogravimetric Analysis
 - c) Differential Scanning Calorimetry
 - d) MRI
2. Paramagnetism in a material can be confirmed using
 - a) NMR
 - b) EPR
 - c) ICP
 - d) MRI
3. Crystallinity of a material can be assessed using
 - a) IR spectroscopy
 - b) Thermogravimetric Analysis
 - c) Differential Scanning Calorimetry
 - d) NMR spectroscopy
4. Which of the following is an alternating copolymer
 - a) ABABABAABABA
 - b) BABABABAABAB
 - c) ABABABABABAB
 - d) all of the above
5. Which of the following is a gradient copolymer
 - a) AAAABAAABBAABBABBBB
 - b) ABABAABAAABBAABBBABB
 - c) AAAABAAABBAABBABAAB
 - d) none of the above
6. Which of the following limits design flexibility of ceramics
 - a) stiffness
 - b) brittleness
 - c) elasticity
 - d) none of the above
7. Which of the following is a key property of refractory materials
 - a) crystallinity
 - b) elasticity
 - c) low thermal expansion
 - d) none of the above
8. Toughened ceramics are
 - a) zirconia toughened silica
 - b) silica toughened alumina
 - c) zirconia toughened alumina
 - d) none of the above
9. Borosilicate is a
 - a) ceramic
 - b) glass
 - c) metal
 - d) none of the above
10. Which of the following is a semi-synthetic polymer
 - a) cellulose
 - b) cellulose nanocrystal
 - c) protein
 - d) natural rubber