

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
SCHOOL OF HEALTH TECHNOLOGY
DEPARTMENT OF DENTAL TECHNOLOGY
2014/2015 HARMATTAN SEMESTER EXAMINATIONS

DNT 305 Introduction to Dental materials (2units) Time Allowed: 2hrs Date: 15/04/2015

Instruction: Attempt all questions in section A and two from section B. Each question in section A carry 2 marks.

1. Dental material science is defined as
2. Define material science
3. Mention four biological properties of dental materials.
4. What is fitness for purpose of a material?
5. Rheology in dental material science means.....
6. What is viscosity?
7. List three chemical properties of dental materials
8. What is material testing?
9. Why does surface tension exist in liquids?
10. Define stress analysis.
11. The chemical reaction between metallic and non metallic substances in the presence of moisture, air and other substances is called...
 - a. corrosion
 - b. corosion
 - c. tarnishing
 - d. tanishing
 - e. none of the above
12. Since most dental materials come in contact with the oral cavity and the body, there are two important questions to be asked. What are they?
13. What is the importance of "shelf life" as applied to dental materials?
14. Dimensional change of a material is
 - a. the resistance of the material to internal forces
 - b. increase in shape of a material
 - c. decrease in shape of a material
 - d. b and c
 - e. all of the above
15. The amount of heat given off or absorbed when products are formed from reactants is called.
 - a. exothermic reaction
 - b. heat of reaction
 - c. latent heat of fusion
 - d. endothermic reaction
 - e. heat of vaporization
16. Give two factors that affect biocompatibility of dental materials.
17. Mention four categories of material testing.
18. What is 'biocompatibility evaluation test' as applied to dental materials?
19. Mention two dental materials produced from gypsum.
20. How is shelf life different from expiration date?

SECTION B (each question attracts 15 marks)

1. Define stress and strain. With the aid of diagrams, explain the types of stress and strain you know in dental material science.
2. Considering their areas of application, Write short notes on the followings: (a). Fatigue strength (b). Ductility (c). Malleability (d). Impact strength (e). Hardness
3. What are surface properties of materials? List and explain at least five surface properties of materials you know.
4. Discuss the importance of dental material science in dental technology practice.