Federal University of Technology, Owerri

Department of Dental Technology

School of Health Technology

2014/2015 Harmattan Semester Examination

DNT 505 Metallic Prosthodontics II (2 units) **Time Allowed**: 2hrs **Date:** 18/04/2015

Instruction: Attempt all questions in section A and two only from section B

Section A (each question caries 2 marks)

1. Why is alloy quenching important in dental laboratory?
2. Why is heat soaking important during metal casting?
3. Briefly explain the concept of "inversion change" during mould heating.
4. Why is it necessary for dental technologist to beeswax the investment model prior to wax pattern preparation?
5. Define spruing and highlight three principles supporting it.
6. What make the difference between thermal and hygroscopic expansion?
7. What is turbulence as applied to metal casting?
8. Give four purposes of heat treating an alloy.
9. Explain the purpose of pickling as applied to cast alloy.
10. Mention at least four casting defects associated with alloy casting.
11. Mention four ways through which a dental technologist can compensate for alloy shrinkage during metal casting.
12. Draw and label the Bunsen burner used in the dental laboratory.
13. What are refractories? Give three examples.
14. Why is sandblasting relevant in metal casting?
15. What is the difference between induction and centrifugal casting machine?

SECTION B (each question carries 15 marks)

1. A patient presented a fractured full upper denture constructed in acrylic resin to the dental centre. After proper diagnosis, the surgeon with due consultation with the patient and the dental technologist prescribes another full upper denture with metallic base plate. Assuming the working cast is ready; describe how this chromium cobalt base plate is constructed ready for fitting.
2. The dental furnace has a significant role to play in metallic prosthodontics. List and explain the component parts.
3. Heat treatment is one of the essential components of metal casting process in the dental laboratory. Explain vividly the heat treatment of type IV high gold alloy.