

UNIVERSITY OF GREATER MANCHESTER
QUEENS DENTAL SCIENCES CENTRE
BSc (HONS) DENTAL TECHNOLOGY
SEMESTER TWO EXAMINATION 2024/2025
DENTAL TECHNOLOGY TECHNIQUES FOR
REMOVABLE PROSTHODONTICS (DENTURES)
MODULE NO: DNT5104

Date: Wednesday 14 May 2025

Time: 10.00 am – 12.00 noon

INSTRUCTIONS TO CANDIDATES:

There are 15 questions on this paper.

Answer ALL questions.

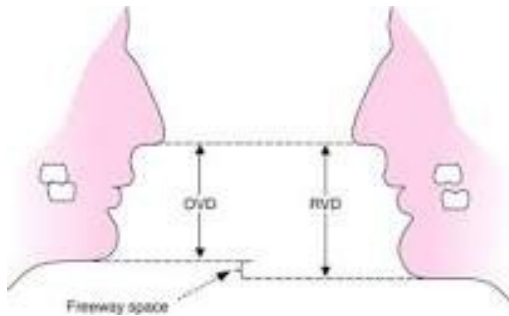
Marks for parts of questions are shown in brackets.

There are a total of 100 marks available.

The pass mark is 40%.

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1. Review the image below, explain what is being indicated and the importance of incorporation within complete denture design.



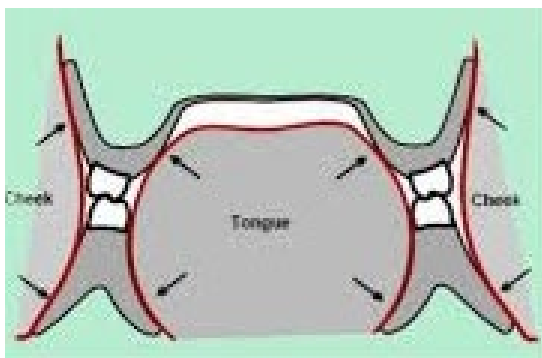
4 marks

2. If a clinician indicates on a prescription that a patient has a flabby ridge how does a technician modify the special tray?

2 marks

3. From the diagram below describe what is being indicated, why is this important to incorporate into complete dentures?

4 marks



4. Identify two reasons why a clinician needs to design a denture.

2 marks

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5. Flanges in dentures are used for stability, retention and to aid aesthetics. From the below questions demonstrate your knowledge on the design and manufacture:

a) Explain the rationale for elongating gingival margins for an older patient.

(2 marks)

b) Identify the three main types of flange design and what type of denture would you expect to see them on?

(6 marks)

c) For what type of patient would you have a smooth denture which is not contoured or stippled?

(1 mark)

Total 9 marks

6. Identify the type of retention in the diagram below, and list three benefits of its use.

5 marks



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7. In an ideal scenario, where should indirect retention be placed in the arch in relation to the type of oral tissue, justify your answer.

3 marks

8. Whilst it is not as stable or retentive what are the benefits of giving a patient a horseshoe designed palate?

2 marks

9. Indicate how a technician can aid in treatment planning on a primary cast if it is noted a patient is having a cobalt chrome denture.

4 marks

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10. Cobalt Chrome major connectors:

- a) Which cobalt chromium major connector should be used with a high lingual fraenum? Explain why.
(3 marks)
- b) If a patient presents with an anterior diastema why would a lingual plate not be suitable?
(2 marks)
- c) A maxilla has more options available due to the hard palate, state the benefits of providing a 'ring'/'Skeletal' design
(3 marks)
- d) Review the below image, identify the major connector, and highlight the indications and contraindications of the design.
(4 marks)



Total 12 marks
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11. Denture Design and Manufacture:

- a) State 3 potential manufacturing errors that could cause a denture tooth to de-bond from the baseplate.
(3 marks)
- b) There are technician factors which can influence the success of a clinician fitting a new complete denture, explain what these are.
(3 marks)
- c) Identify why a simple hinge articulator is detrimental to denture manufacture.
(2 marks)
- d) If a technician applies too much pressure during packing an increase in vertical dimension can occur, provide two reasons why this can happen
(2 marks)
- e) Mandibular dentures cover a smaller area than the maxillary denture, what can this mean for the underlying tissue and vertical dimension? How can a technician aid in design to prevent issues?
(5 marks)

Total 15 marks

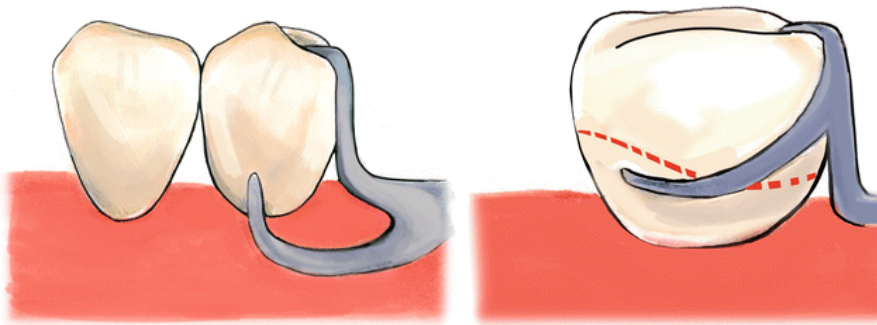
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12. Chrome Construction

- a. From the below two diagrams identify the clasp types.

(2 marks)



- b. With the aid of a diagram explain indirect retention for a chrome denture.

(2 marks)

- c. What is the purpose of tissue stops being cut into relief wax for the chrome retention?

(2 marks)

- d. What is the benefit of having the relief wax so that there is acrylic contacting mucosa rather than metal?

(2 marks)

- e. What does RPI stand for, in relation to clasp design, what is this clasp unit generally used for?

(5 marks)

- f. How far away from the dentition does a major connector need to be placed and what is the reason for this?

(2 marks)

Total 15 marks

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13. Occlusal Rims:



- a. The clinician can mark numerous notation lines into an edentulous occlusal rim, list a minimum of three different lines and identify their use for a technician in setting up. You may draw your own diagram to aid in answering.

(up to 8 marks)

- b. For an edentulous patient what occlusal recording should a clinician use and why?

(2 marks)

- c. Where should an anterior maxilla rim be placed by a technician and explain the purpose of this?

(3 marks)

- d. Whilst wax and wire are common materials for occlusal rim construction, as they are cheap and quick, suggest a more appropriate material with a justification of your choice.

(2 marks)

Total 15 marks

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14. Describe the way a technician would check the protrusive contacts on a denture, include the reasoning behind this?

4 marks

15. Whilst many dentures are still made from a PMMA resin for ease, highlight the benefits of using a base metal alloy to construct the major connector for a complete denture.

4 marks

END OF QUESTIONS