



**JOHANNESBURG
ACADEMIC OFFICE**

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March 2019

R E G U L A T I O N S

FOR ADMISSION TO THE FELLOWSHIP OF THE COLLEGE OF DENTISTRY OF SOUTH AFRICA

FCD(SA) Orthod

The examination comprises Part I and Part II: Part II must be passed within six years of passing Part I

1.0 PURPOSE OF ASSESSMENT

- 1.1. This qualification forms part of the process to accredit dental practitioners for registration with the HPCSA as Orthodontists.

2.0 ADMISSION TO THE PART I EXAMINATION

(to be read in conjunction with the Instructions)

- 2.1 The candidate must be registered as an Independent Dental Practitioner with the Health Professions Council of South Africa.
- 2.2 The CMSA Senate, through its Examinations and Credentials Committee, will review all applications for admission to the examination and may also review the ethical and professional standing of candidates.

2.3 SYLLABUS OF THE PART I EXAMINATION

See Appendix A

2.4 FORMAT OF THE PART I EXAMINATION¹

- 2.4.1 One written paper of 3 hours' duration on Anatomy, Embryology and Histology.
- 2.4.2 One written paper of 3 hours' duration on Physiology, Oral Biology and Craniofacial growth.
- 2.4.3 One written paper of 3 hours' duration on the principles of Pathology including Microbiology and Oral Pathology.
- 2.4.4 If a candidate is unsuccessful in either one or two of the Part I subjects, credit will be given for the subject(s) passed (minimum required mark of 50%), and he/she will be allowed to re-write the failed subject(s).

This exemption is only valid for two examination periods. If the candidate is again unsuccessful with one or two of these subjects, the entire examination will have to be taken at the next attempt, with only one final examination remaining for a subject or two that may have been unsuccessful at the second full examination process.

3.0.../

¹ Paper duration effective SS 2019

3.0 ADMISSION TO THE PART II EXAMINATION

- 3.1 The College Council, through its Examinations and Credentials Committee, will review all applications for admission to the examination and may also review the professional and ethical standing of candidates. Two or more Heads of Orthodontic Departments from any of the four Dental Schools in South Africa will be co-opted on the Examinations and Credentials Committee of the College Council.
- 3.2 A candidate may be admitted to the examination after fulfilling all the following criteria:
- 3.2.1 Registration as an Independent Dental Practitioner or as a Postgraduate Candidate with the Health Professions Council of South Africa (HPCSA).
 - 3.2.2 Evidence of having passed, within the previous 4 years, the Primary subjects of Anatomy, Physiology and Oral Pathology from a South African Dental School or the university equivalent subjects as approved by the Council of the College.
 - 3.2.3 Evidence of holding a full time appointment as a registrar or supernumerary registrar in an accredited Orthodontic programme at a South African Dental School for a minimum of four years.
 - 3.2.4 Evidence of having achieved success in continuous assessment throughout the programme, representing the candidate's achievements in, *inter alia*, clinical work, presentation of projects, assignments, written and oral seminars, and having produced a reflective portfolio of all cases carried out during training, as confirmed by duly completed statement from the Head of the academic programme. The case portfolio to be made available to the examiners in electronic form at least two weeks before the examination.
 - 3.2.5 The case portfolio shall consist of 15 cases for presentation at the examination in written and presentation (PowerPoint® or equivalent) form and which will be made available to the examiners in electronic form at least two weeks before the examination. Each case must detail the diagnosis, treatment and outcome with pre and post treatment study casts, radiographs and photographs supplemented by the relevant diagnostic analyses.
 - 3.2.6 A compilation of a Portfolio of Learning (log book) which includes teaching assignments for presentation at the examination in written and electronic (MSWord® or Adobe Acrobat®) form and which will be made available to the examiners in electronic form at least two weeks before the examination. It is recommended that all candidates entering into their registrar training from 1 January 2019 use the LogBox online portfolio. This is a free service and the app is available in both Apple and Android format. Please register at www.logbox.co.za.²
 - 3.2.7 Evidence from an external examiner of having passed a research report/mini thesis/minor dissertation.
 - 3.2.8 Official institutional permission from the Head of the programme, Head of School and Head of Faculty where applicable, that the candidate has fulfilled all the requirements above, and may present for the national professional examination.
 - 3.2.9 In the case of foreign qualified specialists endorsement must be obtained from the HPCSA that the candidate's qualifications have been screened by a panel consisting of the HOD's of the four Dental schools and that the candidate qualifies to sit for the exam.

3.3 SYLLABUS OF THE PART II EXAMINATION

See Appendix B

4.0 FORMAT OF THE PART II EXAMINATION

- 4.1 **Two 3-hour written papers** comprising short answer questions and questions based on orthodontic knowledge and clinical scenarios.
The two papers will be subject to a standards setting exercise (Appendix C and D).
- 4.2 A portfolio of all work done throughout the programme including all clinical cases: seminars, presentations and lectures given and attended, etc. A logbook of activities during the four year program is mandatory.
- 4.3 The **oral presentation** of 15 completed clinical cases, chosen by the candidate. These presentations will afford the examining panel the opportunity to further probe the candidate's knowledge of aspects related to the cases.
- 4.4 The presentation of a rapid diagnosis and alternative treatment plans for a paper-based unseen patient. During this presentation, once again related aspects will be discussed.

5.0.../

² LogBox recommendation effective for new Registrars – 1 January 2019

5.0 FINAL MARK FOR THE PART II EXAMINATION³

The final mark shall comprise the following components, each of which must be passed: (Appendix D)

Written papers	40%
Portfolios	20%
Case presentations	40%

The pass mark for the written papers will be determined by the standards-setting procedure and a candidate must pass the written component before continuing the examination process. The pass mark for the remaining components is 50%.

6.0 ADMISSION AS A FELLOW

6.1 Only candidates who have completed training in an HPCSA recognised registrar post may be awarded a fellowship if successful in the examination.

6.2 **Candidates who have written the examination as a prerequisite from the HPCSA for inclusion on the specialist register are not eligible to be awarded a Fellowship but will be sent a letter confirming their success in the examinations**

All other candidates will be asked to sign a declaration as below:

I, the undersigned, do solemnly and sincerely declare

that while a member of the CMSA I will at all times do all within my power to promote the objects of the CMSA and uphold the dignity of the CMSA and its members

that I will observe the provisions of the Memorandum and Articles of Association, By-laws, Regulations and Code of Ethics of the CMSA as in force from time to time

that I will obey every lawful summons issued by order of the Senate of the said CMSA, having no reasonable excuse to the contrary

and I make this solemn declaration faithfully promising to adhere to its terms

Signed at this day of

..... 20

Signature

Witness

(who must be a Founder, Associate Founder, Fellow, Member, Diplomat or Commissioner of Oaths)

6.3 A two-thirds majority of members of the CMSA Senate present at the relevant meeting shall be necessary for the award to any candidate of a Fellowship

6.4 A Fellow shall be entitled to the appropriate form of certificate under the seal of the CMSA

6.5 In the event of a candidate not being awarded the Fellowship (after having passed the examination) the examination fee shall be refunded in full excluding HPCSA candidates who are not entitled to a Fellowship.

6.6 The first annual subscription is due one year after registration (statements are rendered annually)

7.0 AWARD OF POSTGRADUATE MASTERS DEGREE

Upon successful completion of this National Professional Examination the candidate’s home institution will confer the appropriate Master’s degree. The final mark for awarding the degree will conform to each University’s requirements in terms of grades or categories, or criteria for awarding for example, a distinction.

APPENDIX A⁴

SCOPE OF THE PART I EXAMINATION

1.0 ANATOMY, EMBRYOLOGY, HISTOLOGY, ORAL BIOLOGY

Recommended text book for Anatomy, Embryology, Histology, Oral Biology:

Fundamentals of Anatomy and Physiology

Martini, Nath, Bartholomew

11th Edition

Pearson.

1.1 ANATOMY

1.1.1 **Head:**

Surface anatomy

Osteology of calvaria, especially base of skull and temporal region; upper mid and lower face, orbit, nasal cavity; mandible; individual bones of the skull

The scalp

Temporomandibular articulation

Muscles: of mastication, facial, of tongue, of palate

Contents of orbit

Nasal cavity and paranasal air sinuses

Pterygopalatal fossa, infratemporal fossa

Structures of the oral cavity: lips, cheeks, tongue, floor of mouth, palate, teeth, gingivae

Salivary glands

Ear, external and middle

Oropharynx

Blood vessels and nerves

Blood and nerve supplies, lymphatic drainage, relations, variations

Neurocranial contents

Brain stem

Cranial nerves

Major intracranial vessels and sinuses

Radiology anatomy of head

1.1.2 **Neck:**

Surface anatomy

Osteology of cervical vertebrae, hyoid

Muscles

Triangles of the neck, and contents

Larynx and trachea

Laryngopharynx and upper oesophagus

Thyroid and parathyroids

Blood vessels and nerves

Blood and nerve supplies, lymphatic drainage, relations

Radiological anatomy

1.1.3 **Thorax:**

Surface anatomy

Thoracic wall

Diaphragm, intercostal muscles and accessory muscles of respiration

Trachea, lungs, pleural cavities

Mediastinum including heart and great vessels, oesophagus

Blood and nerve supplies, lymphatic drainage, relations

Radiological anatomy

1.2.../

1.2 EMBRYOLOGY

1.2.1 General knowledge:

Early embryological events
Cardiovascular system
Respiratory system
Gastrointestinal system

1.2.2 Detailed knowledge:

Development of pharyngeal (branchial) arches
Pharyngeal arch derivatives
Development of pharyngeal pouches: middle ear, tonsil thymus, parathyroid, ultimobranchial body
Other pharyngeal derivatives especially thyroid
Development of face, jaws, oral and nasal cavities and paranasal sinuses, tongue and palate, salivary glands, pharynx
Development of blood and nerve supplies and muscles of the face of mastication and of the tongue
Development of teeth, including role of ectomesenchyme and determination of crown pattern
Development of periodontium
Tooth eruption
Osteogenesis, cementogenesis, amelogenesis, dentinogenesis
Development of temporomandibular joint
Development of cranium

1.3 HISTOLOGY

1.3.1 General knowledge:

Primary tissues: epithelia, connective tissues and blood, nerve tissue, muscle
Skin
Cardiovascular system
Respiratory tract
Endocrine system (especially thyroid, parathyroid, pituitary)
Lymphoreticular system

1.3.2 Detailed knowledge:

Tooth: enamel, cementum, dentine, pulp
Periodontium: junctional and sulcular epithelium, gingival fibre system, cementum, periodontal ligament, alveolar bone
Cheeks, lips, tongue, floor of mouth, palate
Salivary glands
Cartilage, bone, sutures
Striated muscle

1.4 ORAL BIOLOGY

1.4.1 Basic genetic mechanisms:

Nucleic acids, biosynthesis of protein; cell growth, division and control
Important development syndromes of head and neck and genetics of inheritance of major developmental abnormalities

1.4.2 Differentiation and maintenance of tissues:

cell turnover; permanent cells; renewal by duplication, stem cells, pluripotential cells

1.4.3 Cellular ultrastructure:

cell membrane and glycocalyx
cilia, flagella, kinetosomes, microvilli and intercellular junctions
cytoplasmic compartment, organelles, sites of metabolic activity
nuclear compartment, envelope, chromatin and nucleolus
cytoskeleton

- 1.4.4 **Cellular communication:**
transmembrane transport mechanisms
chemical mediators, hormones, neurotransmitters, intracellular and surface receptors (steroids and peptides), target cell adaptation
extracellular components: fibres, ground substance, attachment glycoproteins
epithelium-mesenchymal interactions
- 1.4.5 **Oral epithelium:**
keratinocytes
non-keratinocytes (“clear cells”)
intercellular junctions
junctional epithelium and epithelial attachment
patterns of epithelial differentiation and maturation
permeability
epithelium of “specialised” mucosae
Interface between oral epithelium and connective tissue/tooth
- 1.4.6 **Connective tissues of the oral mucosa and periodontium:**
The cells
The fibres
The ground substance
The blood and lymph vessels
The nerves
Regional differences and functions of oral mucosa
Mechanisms of tooth support
Gingival fluid
Ageing of oral tissues

2.0 PHYSIOLOGY

Recommended text book:
Human Physiology
From Cells to Systems
5th Edition
Sherwood (Thompson, Brooks/Cole)

- 2.1 **Basic cell functions:**
Cell structure
Chemical composition of the body
Molecular control mechanisms - DNA and proteins
Energy and cellular metabolism
Movement of molecules across cell membranes
- 2.2 **Control systems:**
Neural control mechanisms
Hormonal control mechanism
Muscle
- 2.3 **Co-ordinate body functions:**
Circulation and blood
Respiration and blood
Regulation of water and electrolyte balance
Digestion and absorption of food
Defence mechanisms: immunology
Sensory systems
Body movement
Consciousness and behaviour

2.4 Oral physiology:

Composition and functions of saliva
Swallowing and chewing
Oral sensation
Mineralisation of teeth and ossification
Hormonal and dietary influences on oral tissues
Growth

3.0 PRINCIPLES OF PATHOLOGY INCLUDING MICROBIOLOGY**Recommended text books:****Robbins Basic Pathology.**

Robbins, Kumar, Cotran (Editors).

7th Edition

Philadelphia, Pa., London, Saunders 2003.

Rippey JJ

Illustrated lecture notes General Pathology.

2nd Edition 1994.

3.1 Cell injury and cell death:

- Cell injury and necrosis;
- Apoptosis;
- Sub-cellular responses to cell injury;
- Ionising radiation

3.2 Adaptions, intracellular accumulations and cell ageing:

- Cellular adaptations of growth and differentiation;
- Intracellular accumulations;
- Pathologic calcification;
- Hyaline change;
- Cellular ageing;
- Pigments

3.3 Inflammation:

- Acute inflammation;
- Chronic inflammation;
- Chemical mediators;
- Morphologic patterns

3.4 Infectious diseases:

- Transmission and dissemination of microbes;
- How microorganisms cause disease;
- Immune evasion by microbes;
- Spectrum of inflammatory responses to infection;
- Acute pyogenic infections, wound infections and hospital infections;
- Principles of disinfection and sterilisation;
- Antibacterial chemical agents;
- Opportunistic infections;
- Hepatitis;
- AIDS

3.5 Diseases of immunity:

- General features of the immune system;
- Disorders of the immune system (hypersensitivity reactions);
- Autoimmune diseases;
- Immunologic deficiency syndromes;
- Amyloidosis

- 3.6 **Genetic disorders:**
- Mutations, Mendelian disorders;
 - Disorders with multifactorial inheritance;
 - Cytogenetic disorders;
 - Molecular diagnosis;
 - Diagnosis of genetic disorders
- 3.7 **Tissue repair:**
- Control of normal cell growth;
 - Extra cellular matrix and cell-matrix interactions;
 - Repair by connective tissue (fibrosis);
 - Wound healing
- 3.8 **Neoplasia:**
- Characteristics of benign and malignant neoplasms;
 - Epidemiology;
 - Molecular basis of cancer;
 - Biology of tumour growth;
 - Carcinogenic agents and their cellular interactions;
 - Host defence against tumours – tumour immunity;
 - Clinical features of tumours
- 3.9 **Blood vessels:**
- Vascular wall cells and their response to injury;
 - Vascular diseases;
 - Atherosclerosis;
 - Hypertensive vascular disease;
 - Aneurysms and dissection
- 3.10 **Haemodynamic disorders:**
- Oedema;
 - Hyperaemia and congestion;
 - Haemorrhage;
 - Haemostasis and thrombosis;
 - Embolism
 - Infarction;
 - Shock
- 3.11 **The heart:**
- Heart failure ischaemic heart disease;
 - Hypertensive heart disease;
 - Valvular heart disease
- 3.12 **Diabetes:**
- Classification and incidence;
 - Pathogenesis;
 - Morphology;
 - Clinical features;
 - Complications

APPENDIX B⁵

1.0 SCOPE OF PART II OF THE EXAMINATION

Part II of the examination will cover all aspects of the scope of practice of an Orthodontic practitioner consisting of:

1.1 Facial growth (normal and abnormal).

Recognise and identify:

- Postnatal growth changes in the craniofacial region, including soft tissues
- Variation in the function of components within the craniofacial region relevant to facial growth
- Individual variation in facial morphology
- The influence of genetic and environmental factors on facial growth

1.2 Aspects of tooth movements and dentofacial orthopaedics.

Recognise and identify:

- The process of tooth eruption and spontaneous tooth movement
- Biological response to different types of force application
- Influence of force systems and force magnitude
- Post-treatment dental and skeletal changes

1.3 Diagnostic procedures.

- Obtain a relevant patient history
- Perform a thorough clinical examination
- Determine habitual occlusion, evaluate functional occlusion, and different jaw relationships
- Evaluate influence of functional components of soft tissues on dentofacial morphology
- Capture accurate and quality diagnostic aids such as photographs, radiographs and study casts

1.4 Oral and maxillofacial radiology and other imaging techniques.

- Recognise and identify abnormalities and pathological conditions that can be diagnosed on radiographs and computed tomography
- Apply the As Low As Reasonably Achievable principles for radiation protection
- Judge and improve the quality of radiographs for orthodontic purposes
- Apply health and safety guidelines with respect to oral and maxillofacial radiology

1.5 Cephalometric radiography.

- Describe the radiographic anatomy of the head
- Identify relevant anatomical structures on cephalograms
- Undertake digital or manual tracings of lateral and AP cephalograms
- Undertake cephalometric diagnostic analyses and draw appropriate conclusions
- Assess, select and employ appropriate cephalometric tracing programs that are commercially available

1.6 Orthodontic materials.

- Select appropriate materials for orthodontic procedures
- Handle and use orthodontic materials appropriately and efficiently
- Select appropriate instruments for orthodontic procedures

1.7 Orthodontic biomechanics.

- Apply principles of mechanics to clinical problems
- Calculate force systems produced by different orthodontic appliances
- Estimate force systems produced by dentofacial orthopaedic devices

1.8 Aetiology and epidemiology of malocclusions.

- Assess orthodontic treatment need and perform screening procedures

⁵ Expanded curriculum

1.9 Orthodontic diagnostic assessment, treatment objectives, and treatment planning.

- Arrive at a tentative diagnosis and classification based on the initial clinical examination of a patient which would include medically related factors that may impact on orthodontic treatment.
- Provide advice after an examination concerning feasibility of treatment, need for a more detailed analysis and treatment planning, or further consultation with other specialists
- Arrive at a proper diagnosis on the basis of anamnestic data, patient examination, dental casts, photographs, radiographs, and other relevant data
- Predict the likely effect if no therapy is implemented
- Define objectives of treatment with due consideration of the alternatives
- Define a treatment plan for various types of orthodontic and dentofacial abnormalities, including treatment and retention strategies, therapeutic measures, timing and sequence of their application, prognosis, and estimated treatment and retention time
- Undertake a cost/benefit assessment for different treatment and retention procedures
- Assess scope, limitations and stability of orthodontic treatment
- Communicate the treatment plan to patients (and their parents if the patient is under the age of consent), as well as to other colleagues (multidisciplinary; specialist and non-specialist levels).
- Execute treatment for all types of malocclusions.

1.10 Growth and treatment analysis.

- Use indices to measure occlusal and aesthetic outcomes of orthodontic treatment
- Undertake growth analyses based on radiographic images
- Describe treatment changes by analysis of before and near end of treatment records
- Understand the benefits and limitations of analyses of growth and treatment changes

1.11 Long-term effect of orthodontic treatment.

- Describe the potential long-term effect of orthodontic treatment in individual patients, also in relation to ageing effects of the face and dentition
- Inform the patients about potential post-treatment changes associated with different anomalies and treatment procedures

1.12 Iatrogenic effects of orthodontic treatment.

- Identify factors involved in development of demineralisation, pulp necrosis, root resorption, gingival recession, and periodontal disease during orthodontic treatment
- Prevent or manage intra- and extra-oral lesions due to orthodontic treatment
- Make a caries risk evaluation and apply preventive measures during orthodontic treatment
- Advise patients how to manage pain and discomfort related to orthodontic treatment
- Describe the possible influence of treatment on dentofacial appearance and aesthetics
- Evaluate the influence of treatment on Craniomandibular disorders (CMDs)

1.13 Orthodontic literature.

- Detect essential publications in the current literature
- Evaluate the methodological quality of scientific publications
- Develop and present a critical appraised topic.
- Be receptive to become involved with research in orthodontics

1.14 Removable appliances.

- Describe the use of removable appliances, including advantages and limitations
- Identify indications and contraindications for removable appliance use
- Design appliances and describe and evaluate their construction
- Undertake limited repairs
- Exercise proficiency in the application and use of these appliances
- Be vigilant of new developments, appliances and courses on the market that influence practice of orthodontics by specialists and GP's, e.g. Skipp-Truitt etc

1.15 Functional appliances.

- Describe the use and the limitations of removable and fixed functional appliances
- Identify indications and contraindications
- Design appliances and describe and evaluate their construction
- Undertake limited repairs
- Exercise proficiency in the application and use of these appliances

1.16 Extra-oral appliances.

- Describe the use and the limitations of various types of headgears, face masks, chin cups, and combined extra-oral/functional appliances
- Identify indications and contraindications
- Design appliances and describe and evaluate their construction
- Identify safety aspects of extra-oral appliances
- Exercise proficiency in the application and use of these appliances

1.17 Partial fixed appliances.

- Describe the use of partial fixed and semi-removable appliances
- Identify indications and contraindications, and design appliances
- Describe the different concepts and treatment approaches in partial fixed appliance therapy
- Exercise proficiency in the application and use of these appliances

1.18 Fixed labial and lingual appliances.

- Describe the use of labial and lingual fixed appliances, including their limitations
- Identify indications and contraindications
- Describe different concepts and treatment approaches in design and biomechanical principles
- Exercise proficiency in the application and use of these appliances

1.19 Retention appliances.

- Describe the uses and limitations of retention appliances
- Identify indications and contraindications
- Design the appliance and describe and evaluate its construction
- Describe the most appropriate duration of retention
- Undertake limited repairs
- Exercise proficiency in the application and use of these appliances

1.20 Skeletal anchorage devices.

- Recognise when temporary anchorage devices or skeletal anchorage devices should be considered as part of the management of a malocclusion
- Exercise proficiency in the application and use of these appliances

1.21 Oral devices for OSA treatment.

- Competent in the recognition and orthodontic management of obstructive sleep apnoea (OSA) using appropriate appliances.

1.22 Adult orthodontics.

- Describe indications and specific aspects of orthodontic treatment for adults
- Collaborate in the diagnosis and treatment planning of adult patients with general dental practitioners and other specialists

1.23 Treatment of patients with orofacial clefts and craniofacial anomalies.

- Competent in the orthodontic management of patients with orofacial clefts and craniofacial anomalies

1.24 Orthodontic-surgical treatment.

- Describe aspects of orthodontic treatment specific for patients requiring orthognathic surgery
- Collaborate in the diagnosis and treatment planning of patients who require minor surgical procedures or orthognathic surgery

1.25 Orthodontic-periodontal treatment.

- Describe how orthodontic treatment may benefit patients who have a history of periodontal disease
- Describe aspects of orthodontic treatment specific for periodontally compromised dentitions
- Evaluate indications and contraindications for orthodontic treatment in periodontally compromised dentitions
- Collaborate in the diagnosis and treatment planning of periodontally compromised dentitions

1.26 Orthodontic-restorative treatment.

- Identify indications and contraindications for combined orthodontic-restorative treatment
- Describe orthodontic implications of implants
- Describe aspects of orthodontic treatment specific for combined orthodontic-restorative patient care
- Collaborate in the diagnosis and treatment planning of patients requiring orthodontic-restorative treatment

1.27 Craniomandibular disorders.

- Describe indications and contraindications for orthodontic treatment in patients with CMDs
- Identify possible implications of orthodontic treatment in the presence of a CMD
- Collaborate in the diagnosis and treatment planning of patients with a CMD by a team of specialists

1.28 Management of oral health.

- Instruct patients to maintain optimal oral hygiene as a preventative measure for gingival and dental lesions

1.29 Health and safety conditions in an orthodontic practice.

- Implement guidelines and recommendations for preventing and controlling infectious diseases in an orthodontic setting and comply with them as well as stay updated with any regulatory changes to the profession. Implement guidelines and recommendations for managing personnel health and safety concerns related to infection control in an orthodontic practice and comply with them
- Evaluate systematically the practice infection-control programme to ensure procedures are followed accurately
- Control exposure to substances hazardous to health for patients and personnel

1.30 Office management.

- Implement a quality management system in line with current statutory regulations pertaining to an orthodontic practice

1.31 Communication.

- Communicate effectively with patients, parents, staff, other medical personnel, and third parties
- Utilise effective communication tools and different presentation modes

1.32 Ergonomics.

- Position patient, orthodontist, chairside assistant, and instruments in an ergonomic optimal manner
- Perform specific clinical procedures in the most efficient sequence

APPENDIX C

MARKING GUIDE

This is a guide for examiners when candidates present their proposed treatment plans for the unseen patient.

MARK	DESCRIPTION
<40%	The candidate: <ul style="list-style-type: none"> • Fails to recognise most of the important aspects of the history and/or physical examination, as would be expected of a competent specialist AND/OR <ul style="list-style-type: none"> • Recommends a treatment plan that is completely inappropriate
40 – 45%	The candidate: <ul style="list-style-type: none"> • Failed to recognise some important aspects of the history and/or physical examination, as would be expected of a competent specialist AND/OR <ul style="list-style-type: none"> • Was unable to make an appropriate differential diagnosis, and a rational plan of treatment options.
50 – 65%	The candidate: <ul style="list-style-type: none"> • Successfully recognised most of the relevant aspects, as would be expected of a competent specialist. Examiners should be satisfied that no important aspects of the case have been missed AND <ul style="list-style-type: none"> • Made an appropriate differential diagnosis, and a rational plan of treatment options.
70 – 100%	The candidate: <ul style="list-style-type: none"> • Successfully recognised all the relevant aspects of the case, as would be expected of a competent specialist AND <ul style="list-style-type: none"> • Made an appropriate differential diagnosis, and a rational plan of treatment options. AND <ul style="list-style-type: none"> • Demonstrated clinical maturity, insight and a breadth of experience and knowledge

APPENDIX D

1.0 STANDARDS SETTING FOR THE WRITTEN PAPERS IN PART II OF THE EXAMINATION

(Adapted from Ebel (1972), Nedelsky (1954) and Livingston and Zieky (1982))

- 1.1 Estimate the level of difficulty of each question by categorising into (a) whether it is considered Basic, Intermediate, or Difficult and (b) whether it is knowledge / skills the candidate Must Have (ie is a requirement) or Should Have (i.e. is desirable, for the level of a potential Distinction candidate).
- 1.2 Decide on the distribution of questions that should fall into each category using the grid derived from Step 1 (see below).
- 1.3 Judge the percentage of questions of each category that you would expect a borderline candidate, and a distinction candidate to get right. This implies many questions: an alternative might be to determine the percentage mark for each question.
- 1.4 Determine the score for each examiner in step 3 by multiplying the percentage of expected answers in each category by the number of questions in that category, or by taking an average percentage across all questions.
- 1.5 Then add all the scores per examiner and calculate the median (can also use a trimmed mean if there are extreme outliers) of all scores. If using percentages, the mean of all means could be used. This should help to categorise the candidate into Fail, Pass, or Pass with Distinction.

The grid derived from Step 1 is as follows:

	BASIC	INTERMEDIATE	DIFFICULT
MUST KNOW	20%	40%	20%
SHOULD KNOW		10%	10%

The figures represent the percentages of each category which could contribute to the total number of questions in the assessment, not the number of questions. This distribution of questions will be agreed on before the setting and categorisation of questions.

From a standards-setting perspective, the greater the number of questions, the wider the area of knowledge that can be assessed, and the more feasible the standard setting calculations. However, with too many questions, the depth of answers required may be more difficult as less time can be devoted to each question.

As the single exit exam is of two papers of 3-hours duration, there will be insufficient numbers of questions to carry out this exercise for each paper, and so the two papers will be taken together as one.