



JOHANNESBURG OFFICE
EXAMINATIONS & CREDENTIALS

C M S A

The Colleges of Medicine of South Africa NPC

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September 2022

R E G U L A T I O N S

FOR ADMISSION TO THE FELLOWSHIP OF THE COLLEGE OF

DERMATOLOGISTS OF SOUTH AFRICA

FC Derm(SA)

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

PART 1

1.0 ADMISSION TO THE PART I EXAMINATION

(to be read in conjunction with the Instructions)

- 1.1 The candidate must hold a post-internship qualification to practise medicine which has been registered or is registrable with the Health Professions Council of South Africa
- 1.2 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
- 1.3 A candidate may be admitted to the Part I examination if they have been in a registrar post in an Academic department of Dermatology for a minimum period of six (6) months. Candidates who have been in a medical officer post in an academic department of Dermatology, for more than 6 months may apply for exemption from this rule, to the President of the College of Dermatologists. This application must be accompanied by a motivation from the candidate's Head of Department.
- 1.4 Examination letter for each candidate to be written by the Academic Head of the Dermatology Department. This must be on an official letterhead, signed and stamped.

2.0 CONDUCT OF THE EXAMINATION

The FC Derm(SA) Part I examination consists of three (3) digital written papers which will each contain all aspects of the curriculum. A final overall pass mark of 50% must be obtained to pass the examination.

- 2.1 No rounding of marks to the nearest decimal will be done.
- 2.2 Each paper will consist of 12 short questions.
- 2.3 There is no oral examination for the Part I.
- 2.4 Basic scientists will no longer be part of the Part I examination as from the second semester 2017
- 2.5 No clinical questions are to be included in the Part I examination

PART II.../

PART II**3.0 ADMISSION TO THE PART II EXAMINATION**

(to be read in conjunction with the Instructions)

A candidate may be admitted to Part II of the examination having

- 3.1 passed Part I of the examination
- 3.2 produced evidence of a total of three (3) years of Dermatology training in a full-time registrar post in an academic Dermatology department
- 3.3 Submitted a Portfolio (applicable to Registrars entering into their training on or after 1 January 2010)
- 3.4 Examination letter for each candidate to be written by the Academic Head of the Dermatology Department. This must be on an official letterhead, signed and stamped.

4.0 CONDUCT OF THE EXAMINATION

- 4.1 two digital written papers on the principles and practice of dermatology
- 4.2 A subminimum of 50% is required, to be invited to the clinical examination (irrespective of the number of questions passed)
- 4.3 No rounding of marks to the nearest decimal will be done
- 4.4 the clinical dermatology section of the Part II examination must be passed with a minimum mark of 50% for a candidate to be successful in the final examination irrespective of the overall weighted mark obtained (no rounding of marks to the nearest decimal)
- 4.5 An online Zoom-based Structured Oral Examination (SOE) shall be conducted according to the curriculum
- 4.6 Weighting of the examination:¹

Written (Papers 1 and 2 together)	– 30%
Medicine Case	– 10%
Histopathology Cases	– 10%
Clinical Cases	– 50%

(Long case and 4 short cases each 10%)

NOTE: All sections of the examination will include consideration of the principles and practice of medicine

4.7 Carry over of written examination

A candidate who has been invited to the clinical examination and fails the clinical aspect of the examination, shall be allowed to re-do **ONLY THE CLINICAL ASPECT AT THE NEXT EXAMINATION** (without re-writing the written aspect of the examination)

The carry-over of the written examination is allowed only once ie for the next examination only. Should the candidate fail the clinical examination again, then the candidate must re-write the full examination at their next attempt.

5.0 ADMISSION AS A FELLOW

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

5.2 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)

5.3 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

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

5.5 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

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

APPENDIX A**FC DERM(SA) PART I**

Note: This outline of a proposed syllabus is intended to be used as a guide only. Coverage of these subjects cannot guarantee that the candidate will be successful. Examiners are invited to use this as a guide

1.0 General anatomy anatomy and physiology (with relevance to the skin):**1.1 Gross anatomy:**

- surface markings of vital structures
- skeletal muscles of face, neck
- fat distribution, different types of fat and its functions
- fat metabolism
- fat as an endocrine organ

1.2 The cell:

- Cell structure:
 - nucleus
 - cytoplasm
 - organelles, structure and function
 - Cell division, DNA, RNA, genetic control, apoptosis
 - Factors that control cell growth and multiplication, messengers, cytokines
 - phagocytosis, endocytosis, pinocytosis, apoptosis

1.3 Cell membranes:

- Cell-membrane structure, membranes in general and those in specialised tissues
- Membrane function, junctions, synapses, cell adhesion, adhesion molecules
- Movement of substances across membranes
- Intra- and inter-cellular messenger systems – including secretions, synapses, cytokines, receptors

1.4 Genetics:

- Basic principles

1.5 Blood and circulation:**1.5.1 The structure and function of:**

- the circulatory system, arteries and veins, capillaries, pre-capillary sphincters, a-v shunts, glomus bodies
- endothelial cells
- the lymphatic system
- body fluid compartments
- blood constituents
- coagulation (outline, not in detail)
- homeostasis/temperature regulation
- control of blood flow and blood pressure
- responses to heat and cold (peripheral and core temperature changes)
- mechanisms of warming and cooling
- hunting reflex
- fluid balance normal electrolytes

1.6 The nervous system:**1.6.1 The structure and function of:**

- neurones, nerve fibres, nerve bundles
- specialised sensory organs in the skin
- reflexes
- synapses, ganglia
- the spinal tracts
- autonomic nervous system

1.7 **Metabolism:**

1.7.1 Structure, source and functions of:

- carbohydrates
- proteins
- lipids
- vitamins

1.8 **Hormones:**

1.8.1 Structure, source, control mechanisms and functions of hormones:

- adrenocorticoids
- sex hormones
- others in less detail – eg parathyroid, thyroid, insulin, glucagon, GH, MSH

1.9 **Immunology:**

- Innate immunity
- The immune response
- Haptens and antigenicity
- Antigen processing and the recognition of self
- Role of the HLA system (MHC) in the immune response • Humoral and cellular immunity
- B and T cells:
 - origins
 - characteristics, markers
 - functions, mode of action
- Antibody classes, properties and function
- Antigen-antibody reactions
- Regulation of the immune response
- The complement system and the classical and alternate pathways
- Control mechanisms, receptors, messengers, cytokines in the immune response
- Pathogenesis and features of disorders of the immune system, including hypersensitivity disorders, immunosuppression, autoimmune disorders

2.0 **Skin anatomy and physiology:**2.1 **Structure of normal skin:**

- Regional differences
- Surface markings of important structures
- Cleavage lines
- Dermatoglyphics

2.2 **Embryology:**

- Development of skin and accessory structures

2.3 **The skin surface, structure and function, (including regional variation and changes with age):**

- Flora:
 - normal commensals, facultative commensals, pathogens
- Lipids:
 - profile and function
- Importance of skin surface in barrier function
- Conditions with altered barrier function
- Abnormalities in skin flora
- Definition, pathogenesis and significance of xerosis ('dry skin')
- Hygiene hypothesis

2.4 **The epidermis:**

- The structure and function of the epidermis – stratified epithelium
- Regional variation in epidermal differentiation (including skin and mucosae)
- Dendritic cells of the epidermis:
 - structure and function
 - melanocytes
 - Langerhans cells
 - other specialised cells
- Structure and function of desmosomes and hemidesmosomes
- Keratin types, structure, sites and functions
- Changes in the keratinocyte and cornification
- The process and function of cornification
- Control of differentiation and cornification
- Types of cornification/keratinisation (be able to compare mucosal and cutaneous epidermis)
- The lipids of the epidermis and their origin, regional variation and function
- Specialised epithelia, eg mucous membranes, nipple, genitalia, ear, eyelid • Keratinisation of hair and nail

2.5 **The epidermal melanin unit:**

- The melanocyte: structure, ultrastructure and function
- Melanin synthesis and the function of melanin
- Melanosomes
- Types of melanin
- Hair and skin colour
- Pigments in the skin, other than melanin

2.6 **Dermo-epidermal junction:**

- Structure and relation to underlying and overlying structures
- Ultrastructure
- Functions of the dermo-epidermal junction in relation to structure
- Pathogenesis of blistering disorders
- Sites of antigens with clinical relevance

2.7 **Dermis:**

2.7.1 Structure and function of:

- Cells:
 - fibroblasts
 - macrophages
 - lymphocytes
 - mast cells
 - neutrophils
 - eosinophils • Fibres - Collagen:
 - molecular structure
 - types of collagen – characteristics and sites
- Elastin:
 - ground substance components and regional variation
- Other structures
- Pathogenesis of abnormalities of dermal structures, eg Ehlers-Danlos, cutis laxa, PXE, fibrosing disorders

2.8 **Subcutis:**

- Structure and function of fat, vessels, muscles, including anatomy of the fat lobule
- Abnormalities in subcutaneous fat in outline: lipodystrophies, panniculitis

2.9 Appendages of the skin:**2.9.1 Pilosebaceous unit:**

- Hair structure and function, including:
 - hair keratinisation
 - hair cycle, regional differences and changes with age
 - influences on hair growth
 - the sebaceous gland
 - structure and function of gland and duct
 - secretory process
- Pathogenesis of acne, hair cycle disorders, folliculitis and furunculosis

2.10 Eccrine and Apocrine glands:

- The glandular and ductal structures and function
- Distribution of different glands and specialised functions
 - method of secretion
 - (know different types of secretion, ie apocrine, autocrine, eccrine, endocrine, holocrine, merocrine)
 - components of sweat and changes with heat, exercise
 - function and control – innervation, chemical stimulants
- Changes in glands with age
- Pathogenesis of sweating disorders, such as miliaria
- Effects of hyperhidrosis and hypohidrosis

2.11 The nail

- Embryology
- Structure, function and growth
- Blood supply
- Process of keratinisation
- Abnormalities of nail growth

2.12 Blood supply to the skin:

- Skin blood flow in detail, structure and arrangement of blood vessels
- Arterial and venous systems, capillaries of different types, shunts, glomus bodies
- Regional differences • The endothelial cell: □ normal functions
 - role in inflammation
 - wound healing and immune response
- Function and control of vessels, peripheral shunts
- Blood pressure – humoral and neurological controls
- Thermoregulation
- The triple response
- Vasoactive substances
- Fever-mechanisms, function
- Outline of blood vessel disorders, such as proliferation, a-v shunts, occlusion, inflammation

2.13 Nerve supply to the skin:

- Structure of nerves in the skin
- Specialised nerve endings
- Pathways of nerve impulses
- Neuropeptides
- Transmission of sensations, including function of specialised endings
- Free and encapsulated nerve fibres
- Neuropeptides
- Sensations of pain, temperature, touch, position, itch
- Motor function
- Reflexes, including Axonal reflex: □ pathways of pain
□ pruritus and other sensations
- Function of the autonomic nervous system
- Abnormalities of nerve supply, such as loss of sensation

2.14 Defence mechanisms in the skin:

- Non-immunological mechanisms
- Physical, chemical barriers
- Skin permeability
- Response to UV light
- The immune response in the skin, (SALT):
 - antigen processing
 - the roles of lymph node
 - circulating blood cells
 - primed lymphocytes
 - cytokines
 - the complement system

2.15 Aging of the skin:

- Changes in structure and function throughout life
- Relationship between aging and ultraviolet irradiation

2.16 Ultraviolet and ionising radiation:

- The solar spectrum
- Effects of ultraviolet light on the skin
- Lasers
- Ionising radiation and its effects on skin and other tissues
- Pathogenesis of skin cancer and melanoma

3.0 General Principles of Pathology:**3.1 Cell injury and death:**

- Intracellular events in response to injury/ischaemia
- Apoptosis
- Responses to injury and factors that determine the response
- Degeneration and infiltration including changes in liver, heart, kidneys
- Intracellular accumulations
- Ischaemia and its effects on different tissues
- Types of necrosis: eg infarction, liquefaction, coagulation, suppuration, caseation, fibronoid, fat
- Gangrene
- Skin ischaemic disorders, pathogenesis

3.2 **Inflammation:**

3.2.1 *Acute inflammation:*

- Vascular damage, dilation, increased but slowed blood flow, activation of platelets, release of mediators
- Activation of complement cascade
- Margination and emigration of neutrophils • Phagocytosis and release of active substances
- Chemical mediators:
 - vasoactive amines
 - complement components
 - coagulation factors, kinins, fibrinolysis, PAF
 - arachidonic acid metabolites
 - cytokines: esp IL-1 and TNF alpha
 - lysosomes and free radicals
- Neutrophils
- Eosinophils
- Basophils
- Mononuclear phagocytic cells

3.2.2 *Type of inflammation:*

- Depending on site, aetiology, tissue response, duration
- Specialised organ responses to inflammation
- General features, types of cell and tissue response
- Granulomatous inflammation
- The giant cell
- Outcome of chronic inflammation
- Free radicals
- Heat shock proteins
- Pathogenesis of common inflammatory skin disorders, eg eczema, psoriasis, interface disorders, sarcoid, TB, leprosy

3.3 **Repair and regeneration:**

- Types of repair
- Wound healing
- Healing in specific organs
- Factors influencing healing
- Abnormalities of repair – keloids, dystrophic calcification

3.4 **Hyperplasia:**

- Hypertrophy
- Atrophy
- Pathogenesis of skin atrophy

3.5 **Neoplasia:**

- Definition
- Types of tumours (in principle)
- Differences between benign and malignant tumours
- Carcinogenesis
- How tumours spread
- Tumours of different organs
- Outline of pathogenesis of skin tumours, also covered elsewhere

3.6 **Genetic disorders and birth defects:**

- Inheritance of major genetic skin disorders, such as albinism, neurofibromatosis

- 3.7 **Metabolic disorders:**
- Amyloidosis, porphyria, disorders of calcification, diabetes, gout, storage diseases
 - Pigmentary disorders
 - Pathogenesis of above disorders
- 3.8 **Nutritional diseases:**
- Deficiencies of protein, minerals, vitamins
 - Obesity
- 3.9 **Diseases of circulation:**
- Shock
 - Coagulation defects
 - Thrombosis, disseminated intravascular coagulation
 - Ischaemia, occlusive disorders of blood vessels, embolism
 - Oedema
- 3.10 **Immunological disorders:**
- Hypersensitivity reactions 1 to IV
 - Immunodeficiency disorders;
 - congenital
 - acquired (details of aetiology, course, major manifestations and complications pathology)
 - Autoimmunity:
 - theories of pathogenesis
 - common or important examples
 - role of autoantibodies
 - Tumour immunology
 - Transfusion and transplantation reactions
 - Graft-versus-host disease
 - Immunoprophylaxis and therapy
 - Duplication-mentioned above, could be placed here
- 3.11 **Disorders due to ultraviolet and ionising irradiation:**
- Beneficial and harmful effects of solar radiation
 - Acute solar damage
 - Chronic solar damage
- 3.12 **Infectious diseases:**
- Relationship between host and pathogen-commensals, parasites, pathogens, symbiosis • Factors influencing pathogenicity
 - Spread:
 - airborne
 - skin contact
 - oral and genital (including ingestion)
 - inoculation
 - Outcomes of infection

3.13 **Microbiology:**3.13.1 **Bacteria (usually recognised by morphology and staining characteristics):**

- Gram pos. Cocci eg *Staphylococcus*
 - bacilli eg *Corynebacterium*
 - branching eg *Actinomyces, Nocardia*
- Gram neg. Cocci eg *Neisseria* □ bacilli eg *Klebsiella*
 - comma-shaped eg *Vibrio*
- Spiral shaped: *Borrelia* (largest and least coiled)
 - *Treponema*
 - *Leptospira* (smallest, most coiled)
- Acid-fast: *Mycobacteria*
- Cell wall deficient: *Mycoplasma*
- Rickettsias

3.13.2 **Viruses:**

- Basic structure-core and capsid
- DNA: eg Herpes, Pox, Papova
- RNA: eg retroviruses ('oncornaviruses') – HTLV-1, 2; HIV 1, 2

3.13.3 **Viruses and carcinogenesis/oncogenes:**

- retroviruses
- papilloma virus
- herpes B and herpes 8 viruses
- pathogenesis of common infectious diseases eg Tuberculosis, HIV infection, other common bacterial and viral infections

3.13.4 **Fungi and yeasts:**

- yeasts
- moulds
- yeast-like fungi
- dimorphic fungi
- pathogenesis of main features of disorders due to these organisms

3.14 **Histochemistry and laboratory methods:**

- Standard histochemical methods, stains
- Polariscopic microscopy
- Enzyme histochemistry
- Stains to identify particular structures/tissues
- Markers for keratinocytes, lymphocytes, melanocytes, Langerhans cells
- Cytogenetics
- Stains for common and important organisms: □ eg Gram, Ziehl-Neelsen
- Immunofluorescent techniques
- Electronmicroscopy
- PCR
- Antibody assays-agglutination, precipitation, immunoassay eg ASO, RPR, HIV tests (principles)

APPENDIX B

SOME SUGGESTED READING:

Anatomy and Physiology

- Smith & Wood. *Cell Biology*. Chapman and Hall, London
- Arndt. *Cutaneous medicine and surgery*. Saunders
- 3 Bologna JL, Jorizzio JL, Rapini RP. *Dermatology*. 2003
- Moschella and Hurley. *Dermatology*. Saunders (Introductory section: Structure and function of the skin (Good place to start but not complete)
- Fitzpatrick et al. *Dermatology in General Medicine*. McGraw Hill (Introductory chapters) (Very good and detailed additional reading)
- Roitt. *Essential Immunology*. Blackwell Science
- Ross. *Histology: A Text and Atlas*. Williams and Wilkins
- Goldsmith. *Physiology, Biochemistry, and Molecular Biology of the Skin*. Oxford. (Reference only, not light reading)
- Ganong. *Review of Medical Physiology*. Prentice-Hall International
- Guyton and Hall. *Textbook of Medical Physiology*. Saunders
- *Apoptosis and cutaneous biology*. JAAD, 1997, 36: 885-96
- *Biology of sweat glands and their disorders. 1. Normal sweat gland function*. JAAD, 1989; 20: 537-63
- *Growth factors*. Arch Derm, 1989; 125: 1390-8
- *Immunohistochemistry in diagnostic dermatopathology*. JAAD, 1996; 34: 163-83
- *Integrins, selections and CAMs- the 'glue of life'*. SAMJ, 1994; 84:759-763
- *Lymphatics of the skin*. Internat. J Dermatol, 1986; 25:411-8
- *Microbiology of the skin*. JAAD; 1989; 20:367-90
- *Structural and functional changes of normal aging skin*. JAAD, 1986; 15:571-85
- *Structure and antigenicity of the skin basement membrane zone*. J Cut Pathol, 1991; 18:401-9
- *The immune system*. (3 parts) Mackay and Rosen, New England J Med 2000; 343: 3 review articles: 37-49; 108-117; 338-344
- *The mast cell*. J Am Acad Dermatol 1995; 32-545-580

Principles of Pathology

- Majno. *Cells, Tissues and Disease: Principles of General Pathology*. Blackwell Science
- Walter and Israel. *General Pathology*. Churchill Livingstone
- *Graft-versus-host reactions in Dermatology*. JAAD. 1998; 38: 369-93
- Lever. *Histopathology of the skin*. Lippincott
- Rippey. *Illustrated Lecture Notes in General Pathology*. Witwatersrand University Press, (Excellent but brief coverage of subject)
- Stevens and Lowe. *Pathology*. Mosby. (First 7 chapters)
- *Superantigens*. Arch Dermatol, 1995; 131: 829-32

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