

9.0. EXAMINATION

9.1. STAGE 1 ASSESSMENT

9.1.1. Continuous Assessment

For purposes of continuous assessment:

- a. In Stage 1, the candidate is required to maintain a log book to record all procedures performed and level of competence achieved. The log book is to be signed by Medical laboratory technologist, scientific officer (where relevant) or a supervising pathologist.
- b. The log book/ final progress report shall be submitted to the Head of the Department of Pathology/Program Coordinator at the end of the last posting in Stage 1.
- c. Unsatisfactory performance or non-fulfillment of requirements of Stage 1 training are grounds for barring a candidate from sitting the Stage I examination. Candidates found unsuitable for further training will be counselled to leave the Programme.
- d. In some disciplines, mini-tests may be conducted regularly. The purpose of such tests is formative i.e. to detect deficiencies so that remedial action may be undertaken. The marks will not be taken into account for the Stage I examination.

9.1.2. Prerequisites for sitting the Part 1 Examination

To be eligible to sit the Part 1 Examination the candidate must have:

- a. Satisfactorily completed all postings in Stage I (Year 1). The supervisor is required to certify that the progress of the candidate has been satisfactory throughout the Stage and that the candidate is eligible to sit for the Stage I Examination.
- b. Satisfactorily completed all the required tasks as set out in the log book to the supervisor's satisfaction. The log book must be submitted to the Head of Department of Pathology/Program Coordinator for inspection at the end of the last rotation posting.
- c. Satisfactorily completed all assignments [where applicable].

9.2. PROFESSIONAL PART 1 EXAMINATION

9.2.1. The Part 1 examination comprises

- a. Theory papers
- b. Practical papers

The allocation of marks in the Part 1 examination shall be as follows:

Theory	50% (MCQ = 70% and Essay = 30%)
Practical	50%

The Theory examination per each module is for 60 minutes

- a. Anatomic Pathology (20 MCQ and 1 essay]
- b. Medical Microbiology (20 MCQ and 1 essay]
- c. Hematology 20 MCQ (20 MCQ and 1 essay]
- d. Chemical Pathology (20 MCQ and 1 essay]

The MCQ will be of the standard format (a statement followed by 5 True/False responses) with negative marking for incorrect responses. The minimum mark for a question is zero.

Format of the Practical Component:

OSPE 1: Anatomic Pathology (10 stations) and Medical Microbiology (10 stations)
OSPE 2: Haematology (10 stations) and Chemical Pathology (10 stations)

The time allocated for each station is between 5 - 10 minutes. Every station carries equal marks.

Allocation of marks in the Theory & Practical component

Anatomic Pathology	100
Medical Microbiology	100
Chemical Pathology	100
Hematology	100
Total mark	400

Criteria for pass:

The candidate must obtain an overall score of 50% AND

- a. score \geq 50% for the theory components and obtain \geq 50% for the practical components AND
- b. obtain a score for the theory of each discipline of not less than 40% AND
- c. obtain a score for the practical of each discipline of not less than 40%

Repeat examinations:

- a. A candidate who has failed may be allowed to repeat the examination after one year.
- b. A candidate is allowed a maximum of **one** repeat examination.

9.3. STAGE 2 ASSESSMENT

9.3.1. Continuous assessment

Daily routine work in the laboratory is a form of continuous assessment. Students who do not perform routine work satisfactorily may be barred from progressing to the subsequent year.

The candidate is required to maintain a log book to record all procedures performed and the level of competence achieved.

The log book is to be signed by the MLT or scientific officer in charge (where relevant) or the respective lecturer/specialist.

9.3.2. Prerequisites for sitting the Part 2 Examination

To be eligible to sit for the Final Examination the candidate must have:

- a. satisfactorily completed all postings in Years 2, 3 and 4. The supervisor is required to certify that the progress of the candidate has been satisfactory throughout Stage 2 and that the candidate is eligible to sit for the Final Examination.
- b. completed all the required tasks to the supervisor's satisfaction. Submitted a research project report/dissertation accompanied by the supervisor's report. The research project report should be submitted at the end of Year 3 but not later than 6 months before the Final Examination. A revision of the research project report may have to be undertaken if necessary.
- c. submitted all case books, case summaries and any other assignments required by the relevant discipline. The deadline for submission of these reports shall be submitted 2 months before the Final examination

9.4. PROFESSIONAL PART 2 EXAMINATION

The Part 2 examination will be held at the end of Year 4 and comprises:

- a. theory papers
- b. practical papers
- c. viva-voce

Allocation of marks [for all disciplines]:

The allocation of marks in the Stage II examination shall be as follows:

Theory	45%
Practical	45%
Viva-voce	10%
Total	100%

Criteria for pass:

- a. Candidate must obtain an overall score of 50%
- b. Candidate must pass BOTH the theory and practical components (The pass mark for each component is 50%).
- c. Attending the viva is COMPULSORY

Repeat examinations:

- a. *Repeat examination after six months*

A candidate may be allowed to repeat the examination after six months if he has an overall score of 50% or more but has failed either the theory OR the practical component

In this repeat examination, the candidate will be examined in the failed component and be given a viva-voce. The student must achieve satisfactory continuous assessment to be eligible to sit for examination.

The candidate is only allowed to repeat examination twice consecutively for the same component (theory or practical). Upon failure of the second repeat attempt, the candidate is required to repeat both theory and practical components after a period of 6 months to 1 year based on conjoint exam board decision.

- b. *Repeat examination after one year.*

A candidate may be allowed to repeat the examination after one year if he has obtained an overall score of less than 50% OR has failed BOTH the theory and practical components of the Part 2 examination.

A candidate may be allowed to repeat the examination after one (1) year if:

- i. obtained an overall score of less than 50% OR
- ii. failed BOTH the theory and practical components OR
- iii. an overall score of 50% or more, but has failed either the theory or the practical component and the conjoint exam board found that overall performance of the candidate is not satisfactory.

In this repeat examination, the candidate will be examined in the theory and practical components and be given a viva-voce. The student must achieve satisfactory continuous assessment to be eligible to sit for examination

c. A candidate is allowed a maximum of four repeat examinations.

The maximum duration permitted for the completion of the entire course is SEVEN (7) years.

10.0 EXAMINATION DETAIL PER EACH DISCIPLINE

10.1. ANATOMIC PATHOLOGY

Required assignments

100 histopathology reports
 20 frozen section reports
 20 autopsy reports
 100 cytology reports
 20 FNA reports

a.	<i>Theory</i>	45%	
	Essay Paper I 5 essays		50%
	Essay Paper II 5 essays		50%
b.	<i>Practical</i>	45%	
	Autopsy		20%
	Practical 1 (Surgical pathology)		40%
	Practical 2 (Cytology and Special stains)		30%
	Grossing		10%
c.	<i>Viva-voce</i>	10%	

10.2. HAEMATOLOGY

a. *Theory:* 45%

Essay Paper I (50%):

- 5 essays (1 compulsory integrated topics, remaining 4 from 5 choices)

Essay Paper II (50%):

- 5 essays (1 compulsory blood banking, remaining 4 out of 5 choices)

b. *Practical* 45%

OSPE (90%)

- OSPE Morphology (40%) : 9 stations x 20 minutes each
- OSPE Haemostasis/ Miscellaneous (20%) : 9 stations x 20 minutes each
- OSPE Transfusion (30%) : 9 stations x 20 minutes each
- Clinical Case (10%) : 2 cases

c. *Viva-voce* 10%

10.3. CHEMICAL PATHOLOGY

Required assignments

6 case summaries
1 research report

a. *Theory* 45%

Essay Paper I 4 essays (50%)
Essay Paper II 4 essays (50%)

b. *Practical* 45%

OSPE : 12 stations x 10 minutes each(50%)
1 Long (3 hours) and 1 Short practical (2 hours) (50%)

c. *Viva-voce* 10%

10.4. MEDICAL MICROBIOLOGY

Required assignments

6 case reports
1 research report

- a. *Theory* 45%
Essay Paper I 5 essays/MEQ/problem solving questions
Essay Paper II 5 essays/MEQ/problem solving questions
- b. *Practical* 45%
Long practical
OSPE
- c. *Viva-voce* 10%

10.5. FORENSIC PATHOLOGY

Required assignments prior to final examination

100 autopsies with relevant grossing, staining and HPE reports
40 clinical forensic cases and reports
1 Case book (10 cases)
1 research project report and/or manuscript for publication

- a. *Theory*
Essay Paper I 4 essays (from 5 choices) + 1 Clinical Forensic question
Essay Paper II 4 essays (from 5 choices) + 1 Clinical Forensic question
- b. *Practical*
Autopsy
Forensic histopathology
Short cases
Long case (+ Clinical Forensic questions)
- c. *Viva-voce*

10.6. IMMUNOLOGY

The Phase II examination will be held at the end of Year IV and will comprise:

Theory Papers
Practical Papers
Viva-voce

Allocation of Marks

The allocation of marks in the Stage II examination shall be as follows :

a.	Theory		45%
	MCQ	50%	
	Essay 1 & 2	50%	
b.	Practical		45%
	OSPE	50%	
	Long Practical	50%	
c.	Viva-Voce		10%
	TOTAL		100%

10.7. MEDICAL GENETICS

Required assignments prior to Part 2 examination:

- 1 research dissertation
- 1 Cytogenetics case presentation
- 1 Molecular Genetics case presentation
- 1 log book:
 - 50 case summaries of karyotyping on blood samples
 - 50 case summaries of karyotyping on bone marrow samples
 - 50 reports of prenatal diagnosis
 - 10 cases of skin biopsy cytogenetics report (optional)
 - 10 reports on DNA sequencing

a.	Theory (45%)		
	Paper I	ESSAY	50%
	Paper II	ESSAY	50%
b.	Practical (45%)		
	OSCE/OSPE		60%
	Long practical		40%
c.	Viva-voce		10%

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1.0 CONDUCT OF THE CONJOINT PATHOLOGY EXAMINATION

- a. The universities participating in conjoint pathology program host the Part 1 and Part 2 Master of Pathology examinations by rotation.
- b. The university conducting the conjoint examinations is called the hosting university.
- c. The hosting university can only run the examination in which the program is offered in the university, for example, USM will not run a conjoint forensic examination for now because she does not offer the program.
- d. The hosting university will appoint and bear the financial implications for the external examiner.
- e. The hosting university shall appoint the Examination Coordinator ALL lecturers and Ministry of Health specialists involved shall sign declaration of confidentiality.
- f. Submission and vetting of questions shall be done in the hosting university within a stipulated time.
- g. Conduct of the examination shall be the responsibility of the hosting university (Scheduling, printing, storing, distribution and invigilation etc).
- h. All universities are involved in the marking of the answer scripts. Answer briefs are to be provided when relevant.
- i. Marks are to be collated by the hosting university.
- j. Announcement of results will be made in accordance with the rules and regulations of the individual university.
- k. Answers scripts shall be kept by the hosting university for a minimum of 6 months or longer as stipulated by each university's rules and regulations.
- l. All results are final.

1.1. EXAMINERS

1.1.1. Peer review is conducted through the Conjoint Board Examination by the appointment of the international and local external examiners.

- a. External examiners:
External examiners may be invited from overseas or locally. For each discipline, one external examiner shall be responsible for both Part I and Part II examination.
- b. Internal Examiners:
All lecturers who are members of the Faculty/School Board or honorary lecturers to the Faculty/School may be appointed as internal examiners and senior supervisors from Ministry of Health.
- c. Criteria for internal examiners:

- i. An examiner must have at least 3 years' experience after Master of Pathology or its equivalent.
- ii. For the purpose of the dissertation assessment, an examiner shall have at least 2 years' experience in the specialty.

1.2. TERM AND REFERENCE OF COORDINATOR OF THE EXAMINATIONS

1.2.1. Examination Coordinator of Hosting University

- a. Appoint internal examiners for Part I and Part II nominated by collaborating universities. Internal examiners – shall be senior lecturers or programme coordinators from various universities and MOH. [Normally the hosting university will appoint one Part 1 and 4 [or more] program coordinators for Part 2
- b. Appoint Program coordinator of various disciplines
- c. Appoint External examiners for the Part 1 and Part 2 and shall submit proposed names of external examiners (at least 10 months prior to examinations dates) to the dean and the collaborating universities.
- d. Appoint Program coordinator; i.e. separate coordinators for Part 1 and Part 2 for various disciplines

1.2.2. Terms of Reference of Program Coordinator of Hosting University

- a. Prepare examination schedule per each discipline and inform participating universities
- b. Conduct meetings to vet the examination questions at least 3 months before examination.
- c. Ensure candidates fulfill the prerequisites to sit for the examination.
- d. Ensure the examination questions are prepared by the internal/external examiners and program coordinators at minimum of 3 months before examination.
- e. The program coordinator aided by members of his/her examination committee is responsible to draft and finalize the examination blue-print. He/she is responsible to protect the confidentiality of the examinations.
- f. The Examination questions drafts – shall be kept by the hosting university with stringent security measures.
- g. Copies of examination drafts should be shredded.
- h. The Program coordinator is responsible to the smooth running of the examination of the discipline he/she is responsible for.
- i. Collate the examination marks and prepare the list of viva [if relevant].
- j. Submit the final results to the Examination Coordinator so that the results could be communicated to the examination coordinators of participating universities
- k. Ensure that the final results are endorsed by the external examiners and the examination coordinators before submitting to Examination Coordinator
- l. After the examinations are over, the Program Coordinator could provide participating universities, the copies of the examinations