Kingdom of Saudi Arabia	المملكة العربية السعودية
Ministry of Education	وزارة التعليم العالي
King Abdul-Aziz University	جامعة الملك عبدالعزيز
Faculty of Medicine	كلية الطب
Vice Dean for Development	وكالة الكلية للتطوير
Department of Medical Education	قسم التعليم الطبي

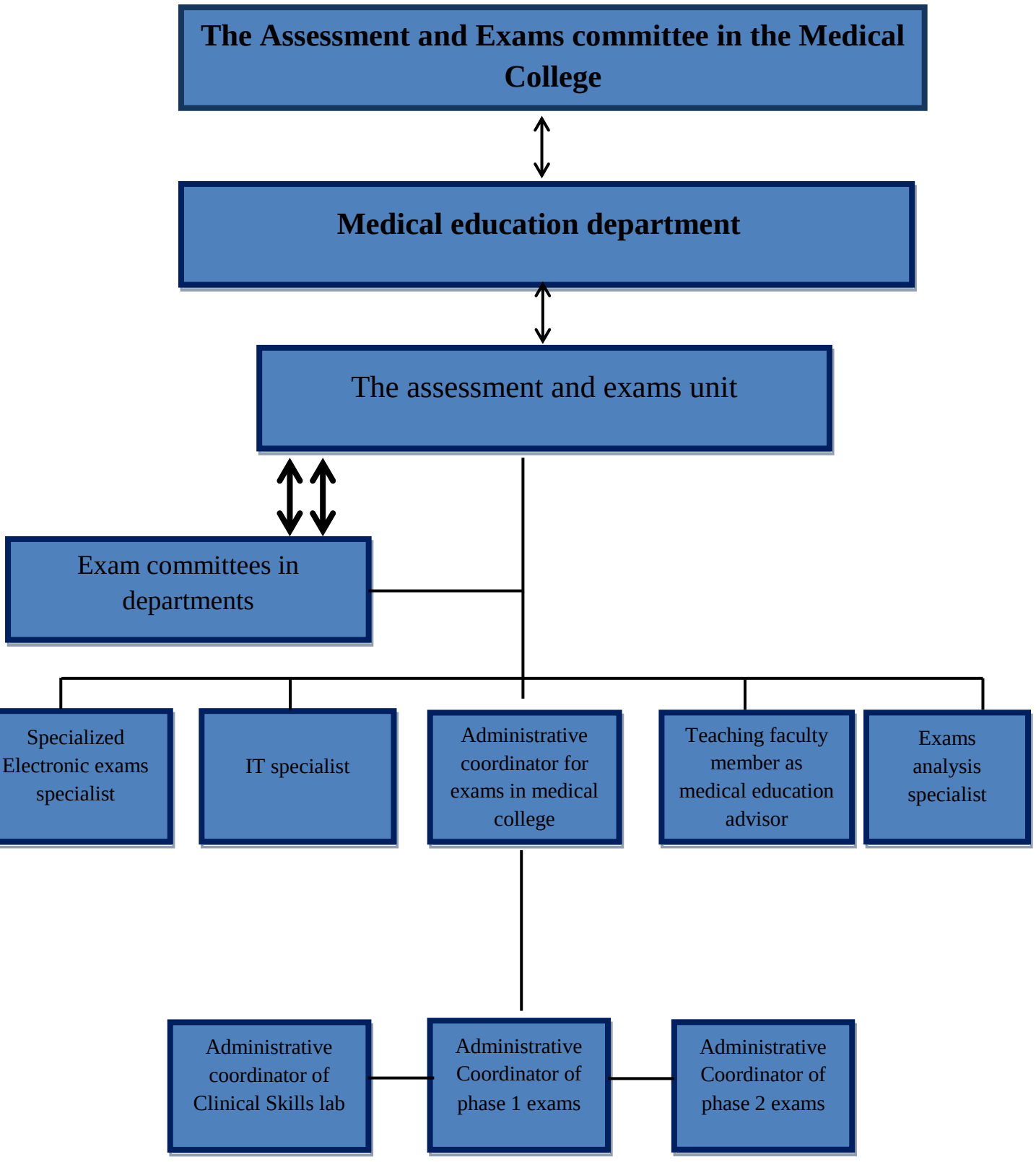
وحدة الاختبارات والقياس

Assessment and Exams Unit

الإصدار الأول

1437هـ -2016

ASSESSMENT AND EXAMS UNIT



ASSESSMENT AND EXAMS UNIT

Vision:

To become the Pioneer in the field of assessment and exams at King Abdulaziz university.

Mission :

To improve and develop assessment and exams tools for Faculty of Medicine consistent with the Academic Accreditation standards .

Goals:

1.To advance in the field of assessment and evaluation tools.

2.To establish database for assessment and evaluation.

3.To contribute to the development of academic programs consistent with the latest updates in teaching and learning methods.

The mechanism of the unit's work with departments and courses before exam

❖ Exams blueprint

1- The department coordinator will send exam's schedule, Maximum at the beginning of the course to unit's email: med-au@kau.edu.sa

2- The Unit under the leading of exam blueprint me supervisor who is responsible for re exam blueprint will study what was sent and will set a date with the coordinator if there is a need to do that.

3- After adopting the final plan from the head of the unit, a final report will be sent to work with it.

4- In case of any difficulty in the working with or in the implementation of the plan, Should be advised to communicate with the administrative coordinator of the unit on Ex :22149-20201-Mobile: 0506613864-0541713040 in order to determine the suitable date to hold a meeting with exam blueprint supervisor.

5- The coordinator of the course and all the members of the exams committees in the department should attend the workshop that will be conducted by the unit about (How to design an exam blueprint?) .

❖ The mechanism of exams' dates booking

1-All exam dates should be sent to the educational affairs administration after adoption by the responsible Vice dean.

2- Educational affairs administration will send all exam schedules to the unit to be rescheduled in the general exam schedule.

3. All departments' coordinators can check the booking of their exam dates through the following link: mailto: it@kau.edu.sa

4-Educational affairs administration will confirm booking the halls and providing observers as needed according to the rules.

5- The coordinator of the course will request the authority to enter the exam questions bank (For his/her course) through (Anjez) service, (this will be done only in the first time when exam is held).

6. The coordinator will enter the questions bank .and organize the question electronic by using the question mark program exams and designing exams.

7. If there is any problem or enquiries about the mentioned steps, please don't hesitate to contact the administrative coordinator of the unit Ext: 22149-20201. Mobile: 0506613864-0541713040

❖ During the Exam

1-The course coordinator and one of teaching staff should be available before the start of the exam by 15 minutes , to ensure the place's readiness and the observers' provision.

2-The course coordinator should take any observation (note) related to the exam and document it in the exam progress form that is prepared by the educational affairs.

3- In the case of cheating, the head of exam committee or the faculty member who was a witness of the incident should write a report by the situation as stipulated in subject thirty-eighth of the study and exams regulations for undergraduate and executive rules.

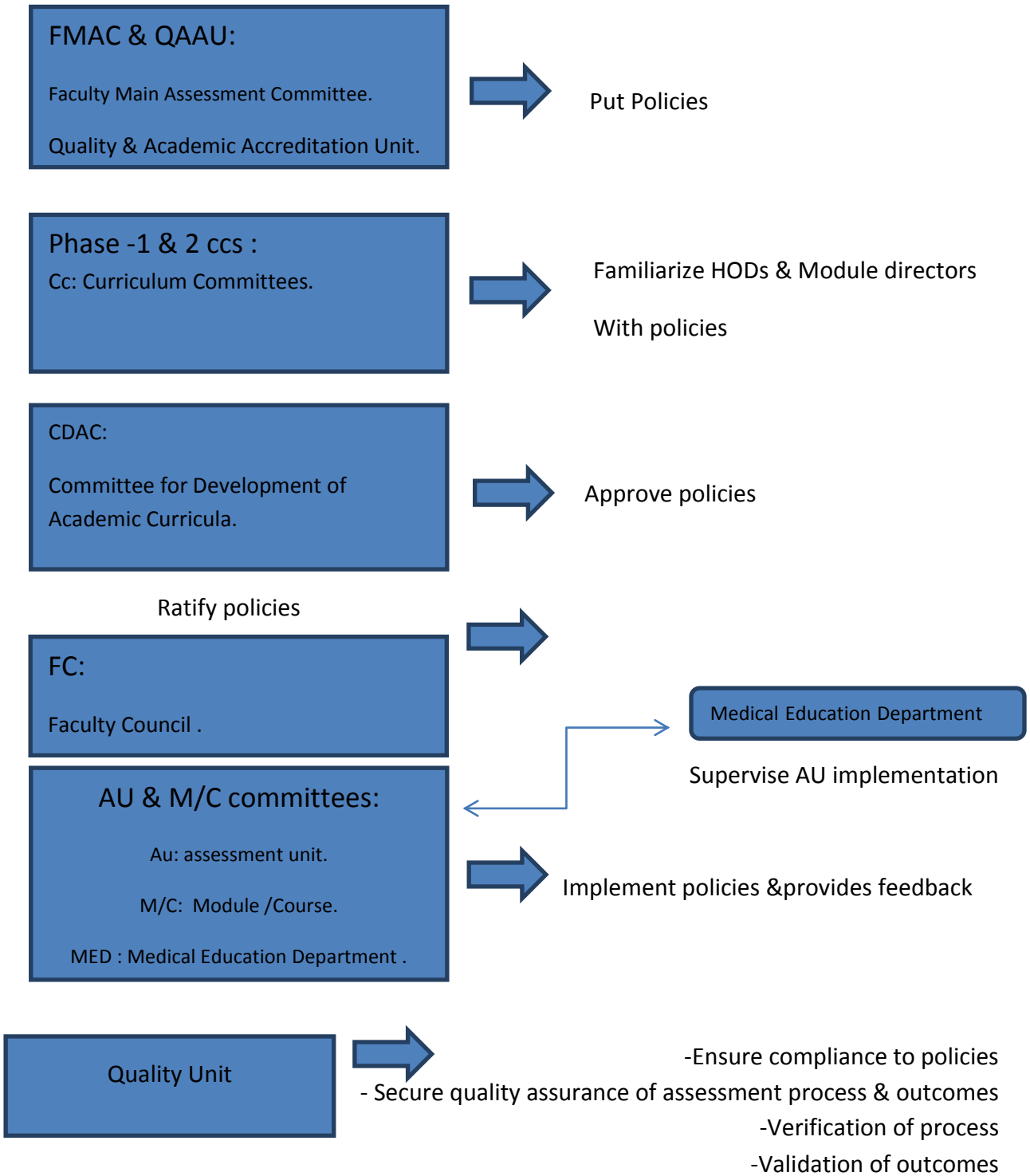
❖ After the Exam

1- To send an item analysis report to the exams unit after each exam in the formal an electronic excel sheet within 24 hours after the exam.

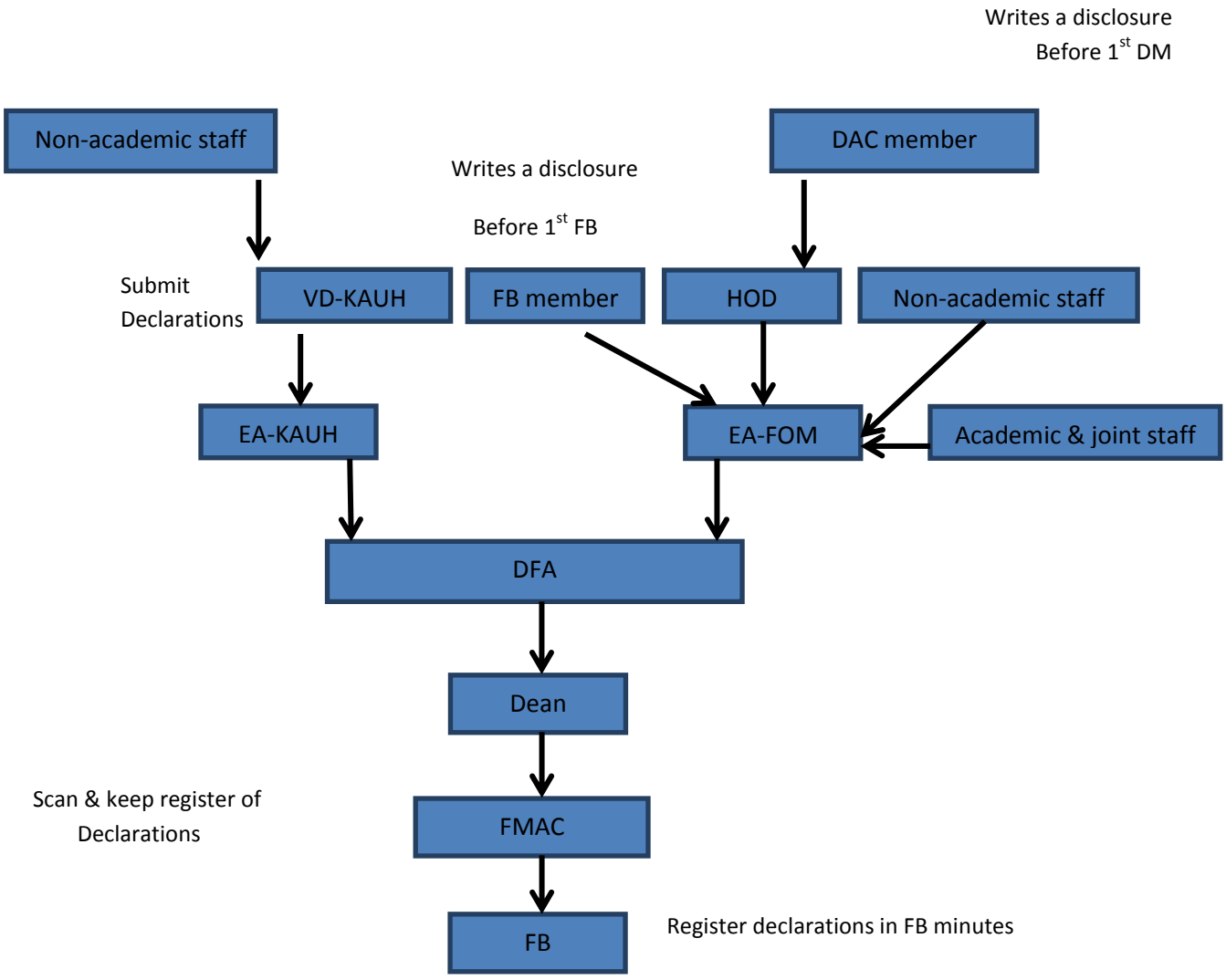
2- The specialist of the item analysis will analyze the exam and the scores.

3- A small-meeting will be held in the presence of the course coordinator or any faculty member participated in the designing of the questions , the specialist of item analysis and a member of the quality unit to study , discuss the results and answer any queries .

Policy (ASS-1.1): Assessment management

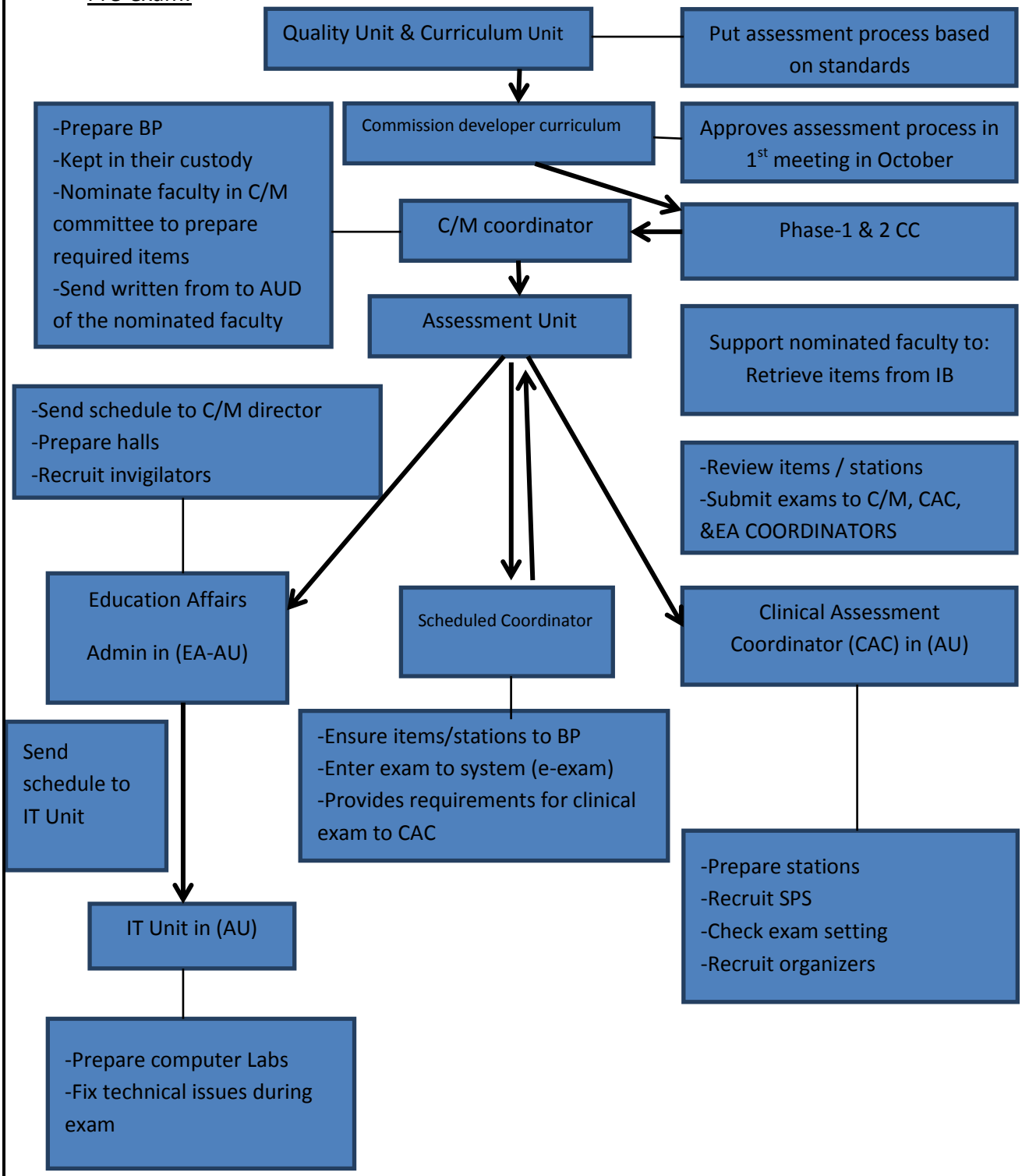


Policy (ASS-1.2): Assessment: Conflict of Interest

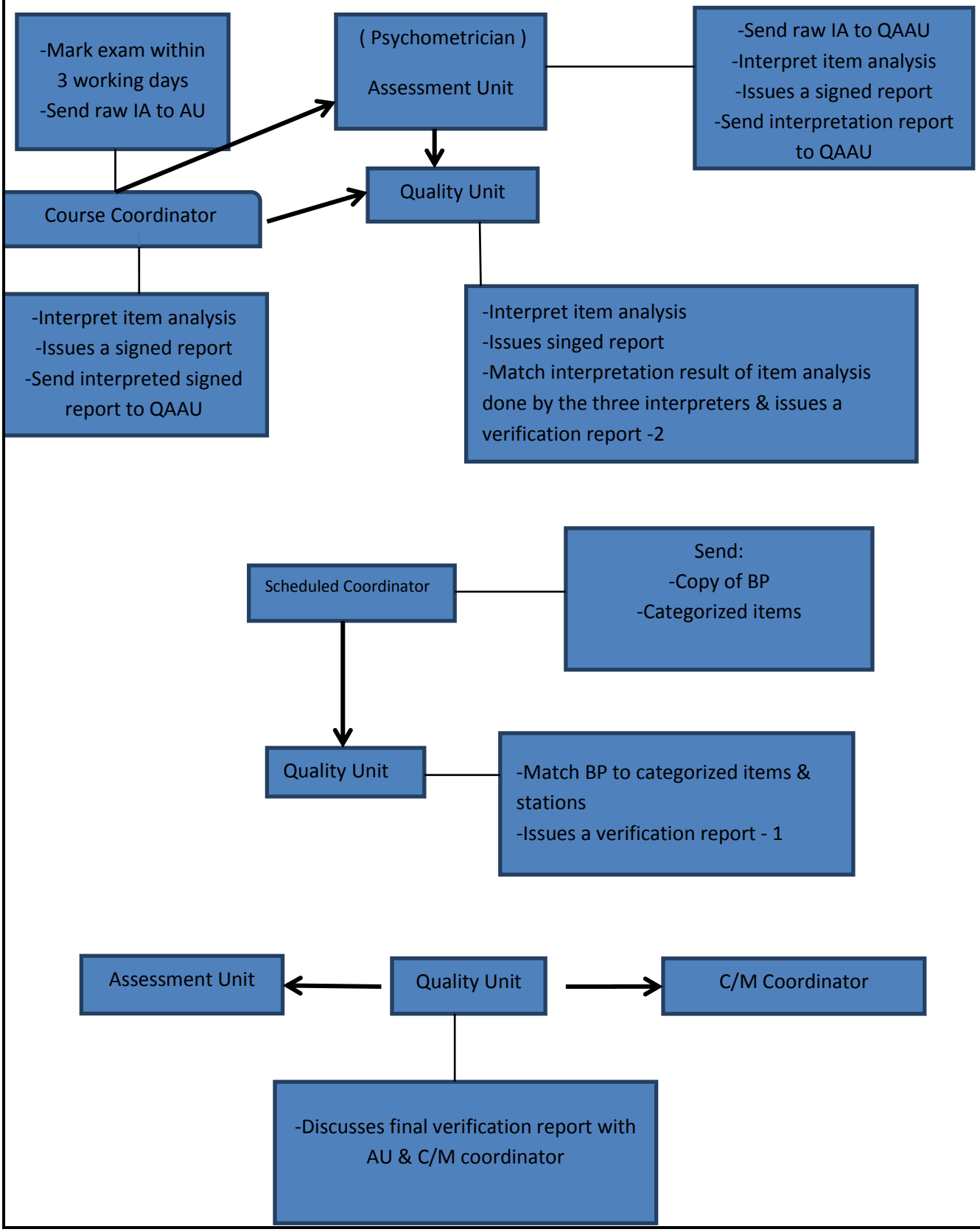


Police (ASS-1.3): Assessment Process Quality Assurance

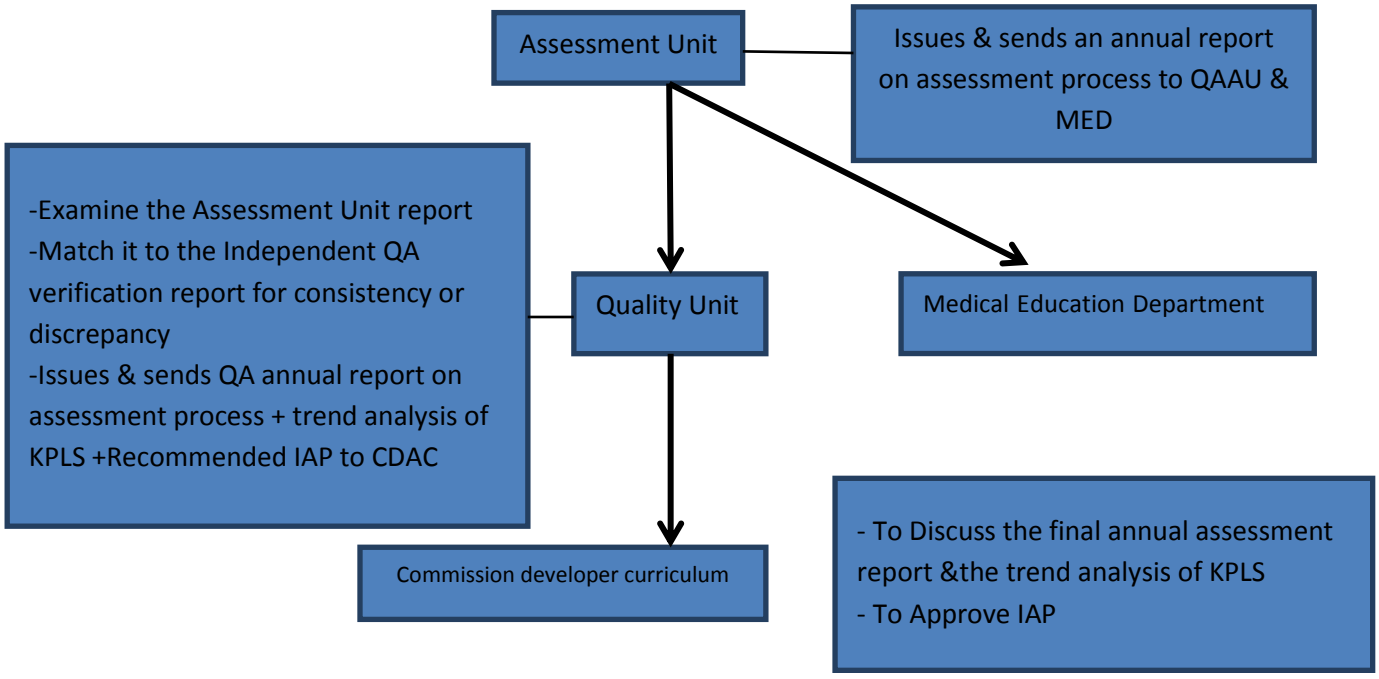
Pre-exam:



Post exam:


-Mark exam within 3 working days
-Send raw IA to AU
(Psychometrician)
Assessment Unit
-Send raw IA to QAAU
-Interpret item analysis
-Issues a signed report
-Send interpretation report to QAAU
Course Coordinator
Quality Unit
-Interpret item analysis
-Issues a signed report
-Send interpreted signed report to QAAU
-Interpret item analysis
-Issues singed report
-Match interpretation result of item analysis done by the three interpreters & issues a verification report -2
Scheduled Coordinator
Send:
-Copy of BP
-Categorized items
Quality Unit
-Match BP to categorized items & stations
-Issues a verification report - 1
Assessment Unit
Quality Unit
C/M Coordinator
-Discusses final verification report with AU & C/M coordinator

At the end of Academic Year:



EXAM BLUEPRINT: ……
Date: ……
Prepared by: ……

Topic	Importance *1= less important* *2= important* *3= lost important*	Weight *Grade of importance for each topic* **divided by** *the total grade of importance*	Student learning objectives **(SLOs)**	Learning domain # *Recall* *Analysis* *Skill* *Attitude*	# of items needed *weight × Total number of exam items*		Exam method **(# of items/ method)**

				Attitude			

Topic	**Importance** *1= less important* *2= important* *3= lost important*	**Weight** *Grade of importance for each topic* **divided by** *the total grade of importance*	**Student learning objectives** **(SLOs)**	**Learning domain** **#**	**# of items needed** *weight × Total number of exam items*	**Exam method** **(# of items/ method)**
				Recall		
				Analysis		
				Skill		
				Attitude		

Topic	**Importance** *1= less important* *2= important* *3= lost important*	**Weight** *Grade of importance for each topic* **divided by** *the total grade of importance*	**Student learning objectives** **(SLOs)**	**Learning domain** **#**	**# of items needed** *weight × Total number of exam items*	**Exam method** **(# of items/ method)**
				Recall		
				Analysis		
				Skill		
				Attitude		

Topic	**Importance** *1= less important* *2= important* *3= lost important*	**Weight** *Grade of importance for each topic* **divided by** *the total grade of importance*	**Student learning objectives** **(SLOs)**	**Learning domain** **#**	**# of items needed** *weight × Total number of exam items*	**Exam method** **(# of items/ method)**
				Recall		
				Analysis		
				Skill		
				Attitude		

Potential flaws in item writing

Flaws that aid test wise examinees*:*

→ *Provide clues to the correct answer* → *Examinee can eliminate options based on flaws and not on knowledge.*

	Example
Clanging (word repeat): A word of phrase is included in the stem and in the correct answer.	Bell's palsy is another name for: a. Optic neuritis b. Facial palsy c. Trigeminal neuralgia d. Herpetic neuralgia
Grammatical clues: • Grammatical construction may lead student to reject options which are grammatically incorrect as the stem stated. • Word in the stem signals that the answer will begin with specific word. • One or more distractors do not follow grammatically from the stem.	Management of endophthalmitis should start with an: a. Intra-vitreal antibiotics b. Vitreal culture c. Vision monitoring d. Vitrectomy
Syntax clueing: • The wording of the stem indicate that the correct answer is a noun, verb, adjective, etc..	The levator muscle is located inferior to the: a. Pre aponeurotic fat b. Divided into muscular and aponeurotic parts c. Has medial and lateral horns d. Supplied by 3rd cranial nerve
Logical clues: • A subset of the options is collectively exhaustive. • One or more distractors do not follow logically from the stem. • 2 contradicting options shows that one of them is the correct answer.	Topical steroid drops can cause: a. High IOP b. Low IOP c. Vitreous detachment d. Nasolacrimal duct obstruction. A & b forms a pair of opposites. Clever examinees know that one of the listed opposites is the correct answer.
Non-parallel structure: • Distractors are not parallel with the stem.	The next step after failed probing in a 5 years old child with congenital nasolacrimal duct obstruction is: a. Dye disappearance test b. Dacryocystorhinostomy c. Lacrimal irrigation under GA d. Jone's 1 test Distractors are on diagnosis and the stem is about management.

Absolutes: • "**Always"** or "**never"**, "**must**" or "**all**" cannot be applied in medicine. • There is no standard definition for "**often**", "**frequently**", "**usually**. • Can be used id stem is long and lead-in asks a precise question.	Ocular side effects can: a) Always with both systemic and topical steroids a. Systemic antibiotics often cause allergic reaction b. All anti-glaucoma medications cause bronchospasm c. Result from preservatives in topical medications
Correct answer is the longest option: • Correct answer is longer, more specific or more complete than other options.	Ocular side effects of systemic medications can occur with: a. Both systemic and topical steroids as they increase intraocular pressure. b. Non-steroids anti-inflammatory drugs c. Systemic gentamycin use d. Preservative free tear substitutes
Convergence: • The correct answer includes the most elements in common with the other options.	
Enemies: • The correct answer has been mentioned in a another item in the same exam. • Avoided by identifying enemy items so they are not used in the same assessment.	

Flaws that add irrelevant difficulty: (*Do not assess knowledge of the intended topic).*

Example

Unnecessarily wordy stem: • In order to make the stem realistic one may create a narrative with irrelevant information and extra reading time.	
Long, confusing options: (unnecessary words in options): • This shifts difficulty from content knowledge to speed reading.	
Options not in logical order • The logical order principle applies to any option set within an implicit order such as: o Conceptual grouping (drug class, from least to most invasive). o Spatial grouping (anterior to posterior). o Sequence (first to last).	The visual pathway starts in the optic nerve and ends in the: a. Optic chiasm b. Optic radiation c. optic tract d. occipital cortex

Numeric data in mixed format, illogical order or not stated consistently.	A permanent retinal damage is most likely to occur if central retinal artery is treated after: a. 30 minutes b. 60 minutes c. 90 minutes d. 120 minutes if the damage occurs after 90 minutes then it will occur after 120 min. therefore c & d are correct.
Overlapping options: semantic	The lens opacity in cataract is caused by: ○ aging ○ changes in lens protein ○ deposition of mucoploysaccharide ○ exposure to infrared rays the correct answer is supposed to be "b" however option a is arguably correct as changes in lens protein can occur with aging.
Vague frequency terms • Sometimes, often, seldom, usually, frequently, likely. • Is usually more than likely or frequently?? • Can be used in stems if the question is carefully constructed & unambiguous.	Tearing in patients with Congenital nasolacrimal duct obstruction is: a. seldom sever b. usually bilateral c. frequently treated with probing d. likely to improve spontaneously
"None of the above" • Problematic where judgment is involved or options are not absolutely true or false. • Turn question into true/false format. • Confuses very knowledgeable student.	

Keep in mind:

Student's rule of thumb for use when they don't know the correct answer	Counteracting measures
Pick the longest answer.	• Make sure the longest answer is only correct a part of the time • Try to make options in equal length
When in doubt pick "c".	• Make sure the correct answer choice letter varies
Never pick the answer which uses "always" or "never" in it.	• Make sure this option is correct part of the time or avoid using "always" and "never" in the option choices
If there are 2 answers which express opposites, pick one or the other and ignore the other alternatives.	• Sometimes offer opposites when nether is correct or offer 2 pairs of opposites
Pick the scientific sounding answer.	• Use scientific sounding jargon in wrong answers
Pick a word which you remember was related to the topic.	• when creating the distractors use terminology from the same area of the text as the right answer, but in distractors use those words incorrectly so the wrong answers are definitely wrong
Do not pick answers which are too simple or obvious	• sometimes make the simple, obvious answer the correct one
If in doubt, guess	• increase number of options

Blueprint step by step

Topic	Topic Importance
Diabetic retinopathy	
Cornea: • Abrasion • Ulcer • Scar	
Eyelid inflammation	
Open angle glaucoma	
Total	

Step # 1

1- List ***topics*** (content items).
2- Determine the ***degree of Importance*** for each topic.

Degree of importance:
1= less important
2= important
3= most important

Topic	Topic Importance
Diabetic retinopathy	3
Cornea: • Abrasion • Ulcer • Scar	3 2 1 Average:2
Eyelid inflammation	1
Open angle glaucoma	2
Total	8

Step # 1
1- List ***topics*** (content items).
2- Determine the ***degree of Importance*** for each topic.

Degree of importance:
1= less important
2= important
3= most important

Topic	Topic Importance	Weight
Diabetic retinopathy	3	3÷8 =0.38
Cornea: • Abrasion • Ulcer • Scar	3 2 1 Average:2	2÷8 =0.25
Eyelid inflammation	1	1÷ 8 =0.13
Open angle glaucoma	2	2÷ 8 =0.25
Total	8	8÷ 8 =1

Step#2

Calculate the ***weight*** of each topic.

Weight =
Grade importance for each topic
÷
Total grade of importance

Topic	Importance	Weight	SLO	Learning domain
Diabetic retinopathy	3	0.38	• Perform direct ophthalmoscopy	Skill
			• Detect signs of diabetic retinopathy	Recall
Cornea: • Abrasion • Ulcer • Scar	3 2 1 Average:2	0.25	• Differentiate corneal abrasion from ulcer.	Analysis
			• Use flash light to diagnose abrasion, ulcer and scar	Skill
Eyelid inflammation	1	.13	• List clinical manifestations of eyelid inflammations	Recall
Open angle glaucoma	2	0.25	• List risk factors • Discuss complications	Recall
Total	9			

Step#3
List student learning Objectives ***(SLOs***)
&
Learning ***domain*** for each objective.

Recall &Analysis = Cognitive domain
Sill = psychomotor domain

Topic	Importance	Weight	SLO	Learning domain	# of items
Diabetic retinopathy	3	0.38	• Perform direct ophthalmoscopy	Skill	0.38X 20=7. 6
			• Detect signs of diabetic retinopathy	Recall	
Cornea: • Abrasion • Ulcer • Scar	3 2 1 Average:2	0.25	• Differentiate corneal abrasion from ulcer.	Analysis	5
			• Use flash light to diagnose abrasion, ulcer and scar	Skill	
Eyelid inflammation	1	.13	• List clinical manifestations of eyelid inflammations	Recall	2.6
Open angle glaucoma	2	0.25	• List risk factors • Discuss complications	Recall	5
Total	9				20

Step#4
Calculate the ***number of Exam items*** needed for each topic.
Total number of questions for the exam=20

Number of items per topic= Weight ✕ total number of exam questions

Topic	Importance	Weight	SLO	Learning domain	# of items
Diabetic retinopathy	3	0.38	• Perform direct ophthalmoscopy	Skill (Psychomotor)	0.38 X20= 7.6➔ 8
			• Detect signs of diabetic retinopathy	Low Knowledge	
Cornea: • Abrasion • Ulcer • Scar	3 2 1 Average:2	0.25	• Differentiate corneal abrasion from ulcer.	High knowledge	5
			• Use flash light to diagnose abrasion, ulcer and scar	Psychomotor	
Eyelid inflammation	1	.13	• List clinical manifestations of eyelid inflammations	Low knowledge	2.6➔ 2
Open angle glaucoma	2	0.25	• List risk factors • Discuss complications	Low knowledge	5
Total	9				20

Step#4
Calculate the ***number of Exam items*** needed for each topic.
Total number of questions for the exam = 20

Number of items per topic= Weight ✕ total number of exam

Ophthalmology exam blueprint

Topic	Importance	Weight	SLO	Learning domain	# of items
Diabetic retinopathy	3	0.38	• Perform direct ophthalmoscopy	Skill	0.38 X20=7.6 → 8 OSCE:2 MCQ:6
			• Detect signs of diabetic retinopathy	Recall	
Cornea: • Abrasion • Ulcer • Scar	3 2 1 Average:2	0.25	• Differentiate corneal abrasion from ulcer.	Analysis	5 OSCE:1 MCQ:4
			• Use flash light to diagnose abrasion, ulcer and scar	Skill	
Eyelid inflammation	1	.13	• List clinical manifestations of eyelid inflammations	Recall	2.6 → 2 MCQ:2
Open angle glaucoma	2	0.25	• List risk factors • Discuss complications	Recall	5 MCQ:5
Total	9				20