



SAUDI BOARD RESIDENCY TRAINING PROGRAM

Clinical Biochemistry

Promotion Examination

Written Examination Format:

- A written examination shall consist of one paper with not less than 100 MCQs with a single best answer (one correct answer out of four options).
- The examination shall contain type K2 questions (interpretation, analysis, reasoning and decision making) and type K1 questions (recall and comprehension).
- The examination shall include basic concepts and clinical topics relevant to the specialty.
- Clinical presentation questions include history, clinical finding and patient approach. Diagnosis and investigation questions; include the possible diagnosis and diagnostic methods. Management questions; including treatment and clinical management, either therapeutic or non-therapeutic, and complications of management. Materials and Instruments questions; including material properties, usage, and selection of instruments and equipment used. Health maintenance questions; include health promotion, disease prevention, risk factors assessment, and prognosis.

Passing Score for Promotion Exam:

The trainee's performance is assessed in each of the evaluation formulas according to the following scoring system:

Score	Less than 50%	50% – 59.4%	60% - 69.4%	More than 70%
Description	Clear Fail	Borderline Fail	Borderline Pass	Clear Pass

1. To upgrade the trainee from a training level to the next level, She/he must obtain at least a **Borderline Pass** in each evaluation form.
2. The program director may recommend to the local supervision committee to request the promotion of the trainee who did not meet the previous promotion requirement according to the following:
 - A. In case that the trainee gets a **borderline Fail** result in **one** of the evaluation forms, the remaining evaluation forms must be passed with **Clear Pass** in at least **one** of them.
 - B. In case that the trainee gets a **borderline Fail** result in **two** of the evaluation forms to a maximum, provided they do not fall under the same theme (Knowledge, Attitude, Skills). The remaining evaluation forms must be passed with **Clear Pass** in at least **two** of them.
 - C. The promotion must be approved in this case by the scientific council for the specialization.

Blueprint Outlines

No.	R1	Section	Proportion%
1		Basic laboratory techniques and centrifugation	10
2		Photometric methods	10
3		Automated instrumentation	10
4		Electrometric methods, osmometry and solid/dry phase chemistry	10
5		Enzymology	5
6		Point of care testing	8
7		Immunoassay techniques	10
8		Electrophoretic and chromatographic techniques	10
9		DNA/RNA analyses	8
10		Laboratory data processing and computing	9
11		Ethics, professionalism and patient safety	10
Total			100%

No.	R2	Section	Proportion%
1		Lab safety and ethics	10
2		Liver and enzymology	10
3		Urogenital tract and gastrointestinal tract	10
4		Gas transport and H ⁺ metabolism & water and electrolytes	9
5		Hemoglobin, porphyrins and neuromuscular system	5
6		Lipids and cardiovascular system	5
7		Diabetes mellitus, hypoglycemia and metabolic response to insult	6
8		Endocrinology and pregnancy, contraception, and hormone replacement therapy	12
9		Calcium and bone disease and magnesium	5
10		Genetics, molecular biology and biological variability	6
11		Cancer	5
12		Pediatric clinical biochemistry and nutritional disorders	6
13		Inborn errors of metabolism	5
14		Toxicology, drugs and drug monitoring	6
Total			100%



Note:

Blueprint distributions of the examination may differ up to +/-3% in each category.

Suggested References:

1. Clinical Biochemistry: Metabolic and Clinical Aspects. Marshall, W.J. & Bangert, S.K., Elsevier Science Health Science Div.
2. Clinical Chemistry, Marshall, W.J., Elsevier Science Health Science Div.
3. Tietz Textbook of Clinical Chemistry, Burtis, C.A. & Ashwood, E.R., WB Saunders
4. Tietz Fundamentals of Clinical Chemistry, Burtis C.A., E.R. Ashwood, D.E. Bruns and N.W. Tietz, WB Saunders.
5. ACB Venture Publications, Various, ACB Venture Publications Guide to Diagnostic Clinical.
6. A Guide to Diagnostic Clinical Biochemistry, Walmsley R. N. and White G. H. Clinical Chemistry, Blackwell Scientific Clinical Chemistry.
7. Clinical Chemistry: Theory, Analysis, Correlation, Kaplan L.A. , Pesce A.J. , and Kazmierczak S.C., Mosby.
8. Clinical Chemistry in Diagnosis and Treatment, Day A., Mayne P. and Mayne P.D., Hodder Arnold.
9. Clinical Biochemistry: An Illustrated Colour Text, Stewart M.J., Shepherd J., Gaw A., Murphy M.J., Cowan R.A. and O'Reilly D. J., Churchill Livingstone

Crash Courses:

- Outline of each course including suggested reading references given by the provider.

No.	R3 Section	Proportion%
1	Quality Assurance	30
2	Selection of Analytical equipment	20
3	Patient to Report and Laboratory Computers and Ethics	20
4	Clinical Laboratory Auditing	15
5	Health	8
6	Safety	7
Total		100%

Note:

Blueprint distributions of the examination may differ up to +/-3% in each category.

Suggested References:

- Please add references

Note:

This list is intended for use as a study aid only. SCFHS does not intend the list to imply endorsement of these specific references, nor are the exam questions necessarily taken solely from these sources.



Example Questions

EXAMPLE OF K1 QUESTIONS

Question 1

Specimens collection tubes for plasma glucose analysis usually contain sodium fluoride.

What is the function of sodium fluoride in these tubes?

- A. Inhibits glycolysis
- B. Precipitates proteins
- C. Serves as a coenzyme of hexokinase
- D. Prevents reactivity of non-glucose reducing substances

EXAMPLE OF K2 QUESTIONS

Question 1

A 2-year-old child presents to the clinic. He is overweight and he has coarse features. He is described as being somewhat dwarfed. He has a history of decreased serum thyroxine (T4).

Which of the following is the most informative additional blood test?

- A. Cholesterol
- B. Triiodothyronine (T3)
- C. Thyroid Binding Globulin (TBG)
- D. Thyroid Stimulating Hormone (TSH)