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2nd Edition







Competency Based Combined LOGBOOK for 1st Professional MBBS

Anatomy • Physiology • Biochemistry

As per the Revised Competency Based Medical Education Curriculum (NMC)

Aditya Pratap Singh
Saumya Singh

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AETCOM—Competencies for IMG-2024 as per guidelines of the National Medical Commission.

Section

1

Competency Assessment

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Chemistry and Metabolism of Proteins and Immunology

S. No.	Competency addressed	Name of the activity	Date completed dd-mm-yyyy	**Attempt at activity** First only (F) Repeat (R) Remedial (Re)	**Rating** Below (B) expectations Meets (M) expectations Exceeds (E) expectations or Numerical scores	**Decision of faculty** Completed (C) Repeat (R) Remedial (Re)	**Initial of faculty and date**	**Feedback received** Initial of learner
1.	Describe the specialized products formed from the amino acids glycine, phenylalanine, tyrosine, tryptophan, and methionine, branched chain amino acids and arginine and the inborn errors associated with them. Discuss new-born screening. BC 5.7							

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Vitamins and Nutrition

S. No.	Competency addressed	Name of the activity	Date completed dd-mm-yyyy	Attempt at activity First only (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations or Numerical scores	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty and date	Feedback received Initial of learner
1.	Provide dietary advice for optimal health in childhood and adult in disease conditions like diabetes mellitus, coronary artery disease and in pregnancy. BC 8.4							

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Organ Function Tests and Hormones

S. No.	Competency addressed	Name of the activity	Date completed dd-mm-yyyy	Attempt at activity First only (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations or Numerical scores	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty and date	Feedback received Initial of learner
1.	Describe the function tests of kidney, liver, thyroid and adrenal glands and their clinical significance. Interpret the function tests report. BC 11.1							

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Biochemistry Laboratory Test/Practical

S. No.	Competency addressed	Name of the activity	Date completed dd-mm-yyyy	**Attempt at activity** First only (F) Repeat (R) Remedial (Re)	**Rating** Below (B) expectations Meets (M) expectations Exceeds (E) expectations or Numerical scores	**Decision of faculty** Completed (C) Repeat (R) Remedial (Re)	**Initial of faculty and date**	**Feedback received** Initial of learner
1.	Describe and identify pre-analytical (especially order of draw, tourniquet technique), analytical, post-analytical errors. BC 14.20							
2.	Observe, interpret and discuss the baseline, diagnostic, prognostic, and discharge investigations of clinical biochemistry. BC 14.24							

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Add on Competencies as Decided by the Department of Biochemistry

S. No.	Competency addressed	Name of the activity	Date completed dd-mm-yyyy	**Attempt at activity** First only (F) Repeat (R) Remedial (Re)	**Rating** Below (B) expectations Meets (M) expectations Exceeds (E) expectations or Numerical scores	**Decision of faculty** Completed (C) Repeat (R) Remedial (Re)	Initial of faculty and date	**Feedback received** Initial of learner

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Competencies of the Procedures for Certification

S. No.	Competency addressed	Name of the activity	Number required to certify P (Perform)	Date completed dd-mm-yyyy	Attempt at activity First only (F) Repeat (R) Remedial (Re)	Rating Below (B) expectations Meets (M) expectations Exceeds (E) expectations or Numerical scores	Decision of faculty Completed (C) Repeat (R) Remedial (Re)	Initial of faculty and date	Feedback received Initial of learner
1.	Describe the physical properties, chemical constituents of normal urine and abnormal constituents of urine and perform urine analysis to determine normal and abnormal constituents (including dipsticks method demonstration). BC 14.3		2						
2.	Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states and prepare a urine report. BC 14.4		1						
3.	Perform estimation of glucose by manual/semi-automated analyzer method and demonstrate glucometer usage and interpretation of results with clinical scenarios. BC 14.7		1						

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4.	Perform estimation of urea and calculate BUN and interpretation of results in clinical scenarios. BC 14.8		1						
5.	Perform the estimation of serum creatinine and calculate creatinine clearance. BC 14.9		1						
6.	Perform estimation of uric acid in serum and interpretation of results with clinical scenarios. BC 14.10		1						
7.	Perform estimation of serum proteins, albumin and A:G ratio. BC 14.11		1						
8.	Perform the estimation of serum total cholesterol. BC 14.12		1						
9.	Perform the estimation of serum bilirubin by manual/semi-automated analyzer method. BC 14.13		1						
10.	Describe quality control and identify basic L J charts in clinical biochemistry lab. BC 14.21		1						

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Certifiable Competencies in Biochemistry

Competency BC 14.3: Describe the physical properties, chemical constituents of normal urine and abnormal constituents of urine and perform urine analysis to determine normal and abnormal constituents (including dipsticks method demonstration)

Specific Learning Objectives (SLOs):

1.

2.

3.

4.

Description of the Module:

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Reflection on Certifiable Competency

Date:

Topic 1: Describe the physical properties, chemical constituents of normal urine and abnormal constituents of urine and perform urine analysis to determine normal and abnormal constituents (including dipsticks method demonstration).

What happened:

So what:

What next:

Signature of Teacher-in-charge

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Note:

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Certifiable Competencies in Biochemistry

Competency BC 14.4: Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states and prepare a urine report.

Specific Learning Objectives (SLOs):

1.

2.

3.

4.

Description of the Module:

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Reflection on Certifiable Competency

Date:

Topic 2: Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states and prepare a urine report.

What happened:

So what:

What next:

Signature of Teacher-in-charge

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Note:

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Certifiable Competencies in Biochemistry

Competency BC 14.7: Perform estimation of glucose by manual/semiautomated analyzer method and demonstrate glucometer usage and interpretation of results with clinical scenarios.

Specific Learning Objectives (SLOs):

1.

2.

3.

4.

Description of the Module:

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Reflection on Certifiable Competency

Date:

Topic 3: Perform estimation of glucose by manual/semiautomated analyzer method and demonstrate glucometer usage and interpretation of results with clinical scenarios.

What happened:

So what:

What next:

Signature of Teacher-in-charge

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Note:

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Certifiable Competencies in Biochemistry

Competency BC 14.8: Perform estimation of urea and calculate BUN and interpretation of results in clinical scenarios.

Specific Learning Objectives (SLOs):

1.

2.

3.

4.

Description of the Module:

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Competency Based Combined LOGBOOK for 1st Professional MBBS

Anatomy • Physiology • Biochemistry

This logbook is designed as per the latest guidelines of logbook module 2024 shared by NMC for implementation of Competency-based Medical Curriculum and recommended to be followed for the MBBS students from the academic year 2024–2025 onward. This combined logbook of Anatomy, Physiology, and Biochemistry is a verified record of the progression of the learner documenting the acquisition of the requisite, knowledge, skills, attitude, and competencies. It is a tool that guides medical students by highlighting important clinical objectives promoting self-reflection, providing an opportunity to obtain feedback from preceptors, and the records can be used for formative and continuous assessment. Also, this logbook is an academic document that becomes both a snapshot of the progress of the learner as well as a prerequisite for progression to the next phase of learning or graduation from the course.

Salient Features

- Predefined skill competencies of Anatomy, Physiology, and Biochemistry given in the UG curriculum module, volume I, 2024 for recording the activities conducted in a simple tabulated format based on NMC Logbook module
- Separate sections provided for skill competencies needed for certification in Physiology and Biochemistry subjects
- Separate empty tables provided for add-on competencies needed by each department
- Separate sections provided for Alignment and Integration Topics (AITo), ECE, SDL, Pandemic Management, Humanities, and Extracurricular activities with ample space for reflective writing of the respective subjects
- Separate sections of AETCOM are provided for Anatomy, Physiology, and Biochemistry with their respective modules and reflective writing space
- Recording of the details of assignment and assessment of all the three subjects
- Separate sections provided for attendance record of the students and attending extra classes for poor attendance

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Saumya Singh MBBS (Hons) MD (Microbiology) is Professor and Head, Infection Control Officer, and In-charge of Molecular Laboratory, Department of Microbiology, United Institute of Medical Sciences, Prayagraj, Uttar Pradesh, India. She has published a number of scientific research papers in national and international journals. She has undergone training in BCME, Advance Course in Medical Education (ACME), NABL internal auditors training course (Kolkata), and is an active member in MEU at her institute along with Curriculum In-charge for 2nd year MBBS. She is fascinated about innovative teaching and promotes research work helping her compile this logbook.



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