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# Index of Competencies

As per the latest NMC Guidelines | Competency Based Medical Education (CBME)  
Curriculum for the Indian Medical Graduate

| Code            | Competency                                                                                                                                                                                                                      | Chapter             | Page no.                   |
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| <b>BC 2.5</b>   | Interpret laboratory results of enzymes in various disorders                                                                                                                                                                    | 23                  | 193                        |
| <b>BC 3.6</b>   | Interpret the results of analytes associated with metabolism of carbohydrates and other laboratory investigations related to disorders of carbohydrate metabolism.                                                              | 24, 25              | 199, 205                   |
| <b>BC 4.8</b>   | Interpret laboratory results of analytes associated with metabolism of Lipids                                                                                                                                                   | 27                  | 222                        |
| <b>BC 5.4</b>   | Describe plasma proteins and their functions and brief overview of normal and abnormal electrophoretic pattern of serum proteins, acute phase proteins.                                                                         | 16, 17, 35          | 144, 150, 279              |
| <b>BC 9.1</b>   | Describe the dietary sources, absorption, transport, and metabolism, Biochemical functions of Iron, calcium and copper with its associated clinical disorders.                                                                  | 34                  | 267                        |
| <b>BC 11.1</b>  | Describe the function tests of kidney, liver, thyroid and adrenal glands and their clinical significance. Interpret the function tests report.                                                                                  | 7, 8, 9, 10, 11, 22 | 85, 93, 101, 110, 116, 181 |
| <b>BC 14.1</b>  | Describe commonly used laboratory apparatus, equipment, good/safe laboratory practice, Biomedical hazards and waste management.                                                                                                 | 1, 2                | 3, 23                      |
| <b>BC 14.2</b>  | Describe estimation of pH by pH meter or ABG analyser and interpretation of results with paper case scenarios.                                                                                                                  | 30                  | 238                        |
| <b>BC 14.3</b>  | 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). | 3, 4                | 37, 47                     |
| <b>BC 14.4</b>  | Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states and prepare a urine report.                                                                                        | 4                   | 47                         |
| <b>BC 14.5</b>  | Describe screening of urine for inborn errors and describe the use of paper chromatography                                                                                                                                      | 36                  | 291                        |
| <b>BC 14.6</b>  | Describe the principles of colorimetry and spectrophotometry.                                                                                                                                                                   | 5                   | 65                         |
| <b>BC 14.7</b>  | Perform estimation of glucose by manual/semi-automated analyzer method and demonstrate glucometer usage and interpretation of results with clinical scenarios                                                                   | 6                   | 72                         |
| <b>BC 14.8</b>  | Perform estimation of urea and calculate BUN and interpretation of results in clinical scenarios.                                                                                                                               | 8                   | 93                         |
| <b>BC 14.9</b>  | Perform the estimation of serum creatinine and calculate creatinine clearance.                                                                                                                                                  | 9                   | 101                        |
| <b>BC 14.10</b> | Perform estimation of uric acid in serum and interpretation of results with clinical scenarios.                                                                                                                                 | 10                  | 110                        |
| <b>BC 14.11</b> | Perform estimation of serum proteins, albumin and A:G ratio                                                                                                                                                                     | 16, 17              | 144, 150                   |
| <b>BC 14.12</b> | Perform the estimation of serum total cholesterol                                                                                                                                                                               | 18                  | 155                        |
| <b>BC 14.13</b> | Perform the estimation of serum bilirubin by manual/semi-automated analyser method.                                                                                                                                             | 12                  | 122                        |

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| Code            | Competency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Chapter     | Page no.                                                   |
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| <b>BC 14.14</b> | Describe estimation of calcium and phosphorus and interpretation of results.                                                                                                                                                                                                                                                                                                                                                                                                                    | 20, 21      | 167, 173                                                   |
| <b>BC 14.15</b> | Describe the estimation of triglycerides, HDL and calculation of LDL, and interpretation of results with clinical scenarios.                                                                                                                                                                                                                                                                                                                                                                    | 19          | 163                                                        |
| <b>BC 14.16</b> | Describe the estimation of SGOT (AST)/SGPT (ALT)/alkaline phosphatase and interpretation of results with clinical scenarios.                                                                                                                                                                                                                                                                                                                                                                    | 13, 14, 15  | 128, 133, 139                                              |
| <b>BC 14.17</b> | Describe briefly various body fluids and discuss the composition of CSF.                                                                                                                                                                                                                                                                                                                                                                                                                        | 31          | 246                                                        |
| <b>BC 14.18</b> | Observe use of commonly used equipment/techniques in biochemistry laboratory including: pH meter, paper chromatography of amino acid, protein electrophoresis, TLC, PAGE, electrolyte analysis by ISE, ABG analyzer, ELISA, Immunodiffusion, Autoanalyser, DNA isolation from blood/tissue                                                                                                                                                                                                      | 1<br>30, 35 | 3<br>238, 279                                              |
| <b>BC 14.19</b> | Explain the basis and rationale of biochemical tests done and interpretation of laboratory results in the following conditions: Diabetes mellitus, obesity, dyslipidaemia, fatty liver, myocardial infarction, renal failure, gout, nephrotic syndrome, jaundice, liver diseases, pancreatitis, disorders of acid-base balance, thyroid disorders, genetic disorders, nutritional disorders—vitamin deficiency disorders, disorders of mineral metabolism, disorders of electrolyte metabolism. | 23–34       | 193, 199, 205, 215, 222, 226, 234, 238, 246, 253, 261, 267 |
| <b>BC 14.22</b> | Describe performance of OGTT, glucose challenge test and HbA1c and interpretation of results with clinical scenarios.                                                                                                                                                                                                                                                                                                                                                                           | 25          | 205                                                        |
| <b>BC 14.24</b> | Observe, interpret and discuss the baseline, diagnostic, prognostic, and discharge investigations of clinical biochemistry.                                                                                                                                                                                                                                                                                                                                                                     | 23–34       | 193, 199, 205, 215, 222, 226, 234, 238, 246, 253, 261, 267 |
| <b>DR 17.1</b>  | Enumerate and identify the cutaneous findings in vitamin A deficiency.                                                                                                                                                                                                                                                                                                                                                                                                                          | 33          | 261                                                        |
| <b>DR 17.2</b>  | Enumerate and describe the various skin changes in vitamin B complex deficiency.                                                                                                                                                                                                                                                                                                                                                                                                                | 32          | 253                                                        |
| <b>DR 17.3</b>  | Enumerate and describe the various changes in vitamin C deficiency.                                                                                                                                                                                                                                                                                                                                                                                                                             | 32          | 253                                                        |
| <b>DR 17.4</b>  | Enumerate and describe the various changes in zinc deficiency.                                                                                                                                                                                                                                                                                                                                                                                                                                  | 34          | 267                                                        |
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| <b>IM 11.13</b> | Vertical integration: Perform and interpret a urinary ketone estimation with a dipstick.                                                                                                                                                                                                                                                                                                                                                                                                        | 4           | 47                                                         |
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| <b>PE 12.8</b>  | Identify the clinical features of dietary deficiency of vitamin D.                                                                                                                                                                                                                                                                                                                                                                                                                              | 33          | 261                                                        |
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| <b>PE 13.9</b>  | Identify the clinical features of iodine deficiency disorders.                                                                                                                                                                                                                                                                                                                                                                                                                                  | 34          | 267                                                        |
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| <b>PE 29.16</b> | Discuss the indications for hemoglobin electrophoresis and interpret the report.                                                                                                                                                                                                                                                                                                                                                                                                                | 35          | 279                                                        |
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| <b>PY 4.8</b>   | Describe and discuss gastric function tests, pancreatic exocrine function tests.                                                                                                                                                                                                                                                                                                                                                                                                                | 22          | 181                                                        |