

KHAJA BANDANAWAZ UNIVERSITY, KALABURAGI

FACULTY OF MEDICAL SCIENCES

DEPARTMENT OF BIOCHEMISTRY

Ph.D. Entrance Examination

Syllabus

Medical Biochemistry

1. Biophysical Chemistry.
2. Proteins
3. Enzymes
4. Biological Oxidation.
5. Carbohydrate metabolism.
6. Amino acid metabolism:.
7. Lipid metabolism:
8. Integration of metabolic pathways of carbohydrate, protein and lipid.
Regulation of metabolic pathways. Metabolism in well fed and starvation state.
9. Porphyrins and heme metabolism and associated disorders.
10. Molecular Biology and Genetics
11. Vitamins, Minerals, Nutrition, & Specialized tissues
12. Basic concepts in laboratory investigations.
13. Inborn errors of metabolism involving amino acid, carbohydrate lipid, purine, pyrimidine and porphyrin metabolism, mucopolysaccharidoses.
14. Diabetes mellitus
15. Plasma lipoproteins in health and disease,
16. Clinical Biochemistry
17. Endocrines
18. Biochemistry of Pregnancy,
19. Bone diseases:
20. Biochemical aspects of cancer& Composition of CSF, alterations in disease.
21. Immunology
22. Regulation of fluid and electrolyte balance and associated disorders
23. Regulation of acid-base balance and associated disorders
24. Hematopoietic disorders
25. Stem cells in clinical medicine and research
26. Biochemical basis of neurodegenerative disorders
27. Chromatography, Electrophoresis, Spectroscopic analysis of biomolecules, pHmeters, Centrifugation, Radio Immuno Assays, Ion selective electrodes & Biosensors.
28. Cell fractionation.
29. DNA and RNA—
30. Automation in Medical Laboratory Technology and Instrumentation-