KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.

(Declared as Deemed-to-be-University u/s 3 & 12B of the UGC Act, 1956)

Accredited A+ Grade by NAAC (3rd Cycle) **Placed in 'A' Category by MoE (GoI)**

B.SC. MLTC, RADIOGRAPHY, ANAESTHESIA, PERFUSION, CARDIAC CARE, NEUROSCIENCE, RENAL DIALYSIS AND OPTOMETRY

II SEMESTER – JANUARY 2025

Time: 3 Hours Max. Marks: 60

HUMAN ANATOMY -II

Q.P. Code:1906

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. Describe the Liver under the following headings: external features, ligaments, blood supply and applied anatomy. (3+3+2+2)
2. Describe the gross anatomy of right suprarenal gland under the following headings. a) External features b) Coverings c) Blood supply d) Applied anatomy (3+2+3+2)
3. Describe the urinary bladder under the following headings: External features, relations, blood supply and applied anatomy (2 +4+2+2)

SHORT ESSAY QUESTIONS (Answer any Five): **5 X 5 = 25**

4. Discuss in detail about the coverings of kidney.
5. Discuss the gross features of thyroid gland with a neat, labelled diagram.
6. Describe the lymphatic drainage of stomach
7. Discuss the gross features and functions of ovary
8. Explain the Microscopic structure of Pancreas
9. Describe the supports of uterus
10. Mention the location, length & parts of Duodenum

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 3 = 15**

11. Name the parts of Fallopian tube
12. Name the hormones secreted by thyroid gland
13. Name the coverings of testis
14. Name any **three** muscles of tongue
15. Draw a neat diagram of stomach and label the parts

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B.SC. IN MEDICAL LABORATORY TECHNOLOGY
VI SEMESTER – JANUARY 2025

Time: 3 Hours Max. Marks: 60

CLINICAL BIOCHEMISTRY-VI

Q.P. Code:0101

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. Discuss in detail factors affecting quality in a clinical laboratory. Add a note on limits of errors allowable in clinical laboratory. (6+4)
2. List all the clinical laboratory records. Write in detail the components necessary in a requisition form. Add a note on importance of requisition form in clinical laboratory. (5+2+3)
3. Define biomedical waste management. Discuss the various methods used for disposal of segregated biomedical waste. (3+7)

SHORT ESSAY QUESTIONS (Answer any FIVE): **5 X 5 = 25**

4. Discuss errors in pre-analytical aspect of clinical investigation.
5. Describe a equipment maintenance register. List the advantages of well-maintained equipment maintenance register. (2+3)
6. Discuss the importance of accreditation process for clinical biochemistry laboratory.
7. Discuss in detail process of collection of blood from a patient referred for estimation of blood glucose and lipid profile.
8. Describe automation in each step of clinical biochemistry investigations.
9. Discuss the normal range of analytes in diabetic panel. Add a note on alteration seen in uncontrolled diabetes mellitus. (3+2)

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 3 = 15**

10. List advantages and disadvantages of serum separator gel containing yellow cap vacutainer.
11. How much of sodium carbonate is needed to prepare 3% solution? Molecular weight of Na_2CO_3 is 40.
12. List **three** steps as first aid for accidental corrosive acid.
13. Write the normal range of serum total proteins. List **two** causes for hypoproteinemia.
14. What is the enzyme defect in the following inborn errors of metabolism?
    a) Phenylketonuria
    b) Von Gierke's disease
    c) Albinism

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B.SC. IN OPTOMETRY-VI SEMESTER
JANUARY 2025

Time: 3 Hours Max. Marks: 60

LOW VISION AIDS, GERIATRIC OPTOMETRY, PEDIATRIC OPTOMETRY & COMMUNITY OPTOMETRY

Q.P. Code:0136

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. How to organize diabetes screening camp? Explain briefly clinical importance of diabetic retinopathy.
2. Explain the clinical uses of bio-optic telescope.
3. Explain the role of an optometrist in an industrial set up.

SHORT ESSAY QUESTIONS (Answer any FIVE): **5 X 5= 25**

4. Define low vision as per WHO guidelines.
5. Galilean telescope versus keplarian telescope – compare & contrast.
6. Explain Hirschberg test.
7. Enumerate the grading's of corneo-opacity. Explain maintenance of keratoplastry register.
8. Write a note on social blindness.
9. Discuss computer software used in low vision aids.

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 3 = 15**

10. Discuss presbyopia.
11. Enumerate grades of hypertensive retinopathy.
12. Describe accessory low vision aid.
13. Enumerate the causes pachymetry.
14. Enumerate the causes of nystagmus.

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B.SC. IN ANESTHESIA TECHNOLOGY/PERFUSION TECHNOLOGY/CARDIAC CARE TECHNOLOGY -IV SEMESTER JANUARY 2025

Time: 3 Hours Max. Marks: 80

APPLIED PHARMACOLOGY

Q.P. Code:1969

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. Classify drugs used for heart failure. Write mechanism of action, uses and adverse effects of digoxin. (4+2+2+2)
2. Classify sedatives and hypnotics. Enumerate the differences between barbiturates and benzodiazepines. Add a note on salient features of new non benzodiazepine hypnotics (Z drugs). (3+4+3)
3. Classify Cephalosporins. Write therapeutics uses and adverse effects of third generation Cephalosporins. (3+4+3)

SHORT ESSAY QUESTIONS (Answer any SIX) **6 X 5 = 30**

4. Discuss uses and adverse effects of ACE inhibitors.
5. Discuss mechanism of action, uses and adverse effects of nitrates.
6. Discuss category wise treatment regimens for tuberculosis.
7. Mention differences between heparin & low molecular weight heparin. Mention their indications.
8. Enumerate different types of shock. Discuss the management of anaphylactic shock.
9. Discuss mechanism of action and uses of sodium valproate.
10. Enumerate general anaesthetics. Discuss complications of general anaesthesia.

SHORT ANSWER QUESTIONS (All are compulsory): **10 X 3 = 30**

11. What are styptic agents? Give any **two** examples.
12. Enumerate any **three** immunosuppressant's along with their indications.
13. Rationale of combining amoxicillin and clavulanic acid.
14. Enumerate various types of intravenous fluids along with their indications.
15. Mention techniques of local anaesthesia.
16. Enumerate drugs used in the treatment of anxiety.
17. Name **three** second generation fluoroquinolones and **three** therapeutic uses.
18. Name **three** potassium sparing diuretics. Write **three** uses of this class of drugs.
19. Name any **three** drugs belonging to class I anti-arrhythmics.
20. Enumerate drugs used in PSVT.

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B.SC. IN MEDICAL LABORATORY TECHNOLOGY
IV SEMESTER – JANUARY 2025

Time: 3 Hours Max. Marks: 60

ANALYTICAL BIOCHEMISTRY AND CLINICAL BIOCHEMISTRY-I

Q.P. Code:1963

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. Classify jaundice. Give an account of the biochemical test which will help in differentiating the types of jaundice. (3+7)
2. Mention the acid-base disorders. Discuss the causes in detail. (2+8)
3. Define quality control and quality assurance. Explain internal and external quality control in detail. Mention the benefits of quality assurance program in a laboratory. (2+6+2)

SHORT ESSAY QUESTIONS (Answer any FIVE): **5 X 5 = 25**

4. Describe the preventive measures to be taken against biomedical laboratory hazards.
5. Explain the principle and uses of flame photometer. (2+3)
6. Mention the tubular function tests. Explain them in brief. (2+3)
7. Mention the normal range of sodium in plasma. Describe the regulation of sodium balance in the body. (1+4)
8. What are cardiac markers? Give examples with their clinical significance. (1+4)
9. Explain the basic principles laboratory organization and management.

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 3 = 15**

10. Define buffers. Give the composition of the blood buffers. (1+2)
11. Discuss the various laboratory errors.
12. Write the normal values of the following: a) Blood urea b) Total protein c) Serum uric acid (1+1+1)
13. What is hyperkalaemia? List **two** causes for it. (1+2)
14. Mention the principle and applications of atomic absorption spectrophotometer.

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FOURTH SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – JANUARY 2025

Time: 3 Hours Max. Marks: 80

ADVANCED DIETETICS

Q.P. Code: 1125

Answers should be specific to the Questions asked.
Draw neat & labeled diagrams wherever necessary.
All the questions are compulsory.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. Discuss pathophysiology and medical nutrition therapy of Acute Renal Failure.
2. Describe dietary management of Atherosclerosis.
3. Enlist and elaborate nutritional problems related to cancer therapy.

SHORT ESSAY QUESTIONS (Answer any EIGHT): **8 X 5 = 40**

4. Discuss functions of kidney.
5. What is pancreatitis? Discuss dietary management of it.
6. Write a note on bulimia nervosa.
7. Explain dietary management of gout.
8. Write a note on Alzheimer's disease.
9. Explain congestive cardiac failure.
10. Discuss role of food in cancer prevention.
11. What is hepatic coma?
12. What is neurotrauma?

SHORT ANSWER QUESTIONS (All are compulsory): **10 X 2 = 20**

13. Define diabetes mellitus and its types.
14. What is cirrhosis of liver?
15. Describe symptoms of hepatitis.
16. What is End Stage Renal Disease?
17. Discuss angina pectoris.
18. What is epilepsy?
19. Describe the term cholecystitis.
20. What is nephrotic syndrome?
21. What are the causes of cholelithiasis?
22. Define hypertension.

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B.SC. IN OPTOMETRY-IV SEMESTER – JANUARY 2025

Time: 3 Hours Max. Marks: 60

OCULAR PHYSIOLOGY AND OCULAR BIOCHEMISTRY

Q.P. Code:0130

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any TWO): **2 X 10 = 20**

1. Draw a neat diagram of micro anatomy of cornea and label the parts. Add a note on corneal transparency.
2. Explain various theories of colour vision.
3. Draw a neat diagram of human crystalline lens and label the parts. Write a brief note on biochemical composition of lens.

SHORT ESSAY QUESTIONS (Answer any FIVE): **5 X 5 = 25**

4. Explain the role of vitamin A in ocular health.
5. Write a brief note on blood-aqueous barrier.
6. Explain scotopic vision.
7. Enumerate colour vision test.
8. Explain the role of diabetes in eye.
9. Explain the various procedures of recording intra ocular pressure.

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 3 = 15**

10. Enumerate the biochemical composition of aqueous humour.
11. Explain dark adaptation.
12. Explain the lacrimal pump mechanism.
13. Discuss general aspects of vision sensation.
14. Describe protective mechanism of eye.

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