KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
(Declared as Deemed-to-be-University u/s 3 of the UGC Act, 1956)
Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

THIRD YEAR B.Sc. ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

BASICS OF APPLIED ANAESTHESIA TECHNOLOGY

Q.P. Code: 1134

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. Define biomedical waste. Discuss different methods of biomedical waste management.
2. Discuss various methods used for presentation of medical statistics.
3. Discuss the various duties and responsibilities in pre-operative and post-operative room.

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

4. Latex allergy
5. Skewed distribution
6. Chi square test
7. Glasgow Coma Scale
8. Fire hazards
9. Sir Ivan Magill
10. Monitoring in anaesthesia
11. Scavenging system

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

12. ASA grading
13. Record keeping
14. Percentile
15. Gum elastic bougie
16. Uses of 't' tests
17. CO_2 absorber
18. Informed consent
19. Type I error
20. Universal precautions
21. Atropine

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THIRD YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

PATHOLOGY – III

Q.P. Code: 1129

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. What is FNAC? Write procedure, preparation for FNAC. Discuss staining of FNAC smears
2. Name the blood components prepared in blood bank. Describe their preparation and uses in clinical practice
3. Explain classification and nomenclature of human chromosomes

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

4. Processing of Broncho-alveolar lavage
5. Disease transmitted by blood
6. Discuss principle and procedure of Papanicolaou'sstain
7. Principle of immunohistochemistry
8. Direct Coomb's test
9. Collection and preparation of urinary samples for cytological studies
10. Record keeping in laboratory
11. Photomicrography

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

12. Fixative used in cytology
13. Histology of thyroid gland
14. Bombay blood group
15. Cross matching
16. Radiation changes in cells
17. Translocation
18. Maturation Index
19. Barr body
20. Proteinuria
21. Cytospin

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THIRD YEAR B.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

BASICS OF APPLIED PERFUSION TECHNOLOGY

Q.P. Code:1137

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. Define sterilization & asepsis. What are the precautions you would adopt for a patient who is HbsAg positive to be taken up for surgery?
2. Describe the parts of heart lung machine. Mention calibrations technique.
3. Discuss medical ethics & relevant medico-legal aspects of cardiac surgical patient.

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

4. Management of metabolic acidosis
5. Adrenaline use pust CPB
6. Post bypass checklist
7. Causes of high line pressure during CPB
8. ETO sterilization
9. Responsibilities of perfusionist
10. Platelet transfusion
11. Causes of law venous return during CPB

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

12. Betadine
13. Dopamine
14. Jehovah's witness
15. Sampling
16. Management of hypokalemia
17. Magnesium
18. Normal distribution curve
19. Advantages of hypothermia
20. Hematocrit calculation on pump
21. Sources of data

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THIRD YEAR B.Sc. RADIOGRAPHY
DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

RADIO-DIAGNOSIS IMAGING TECHNIQUE

Q.P. Code:1132

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. Intravenous contrast media used in C.T. examination & their adverse reactions.
2. Describe ultrasonography instruments. Difference in grey scale and Doppler imaging.
3. Different coils and pulse sequences of MRI. How do they contribute in image formation?

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

4. Principle of spiral C.T
5. Use of image reconstruction in C.T.
6. Advantages of C.T. over M.R.I.
7. Contrast agent in M.R.I. & their use.
8. Use of transducers in sonography machine.
9. Doppler in sonography and their use.
10. P.E.T. CT study.
11. Interventions in sonography.

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

12. Isotopes in radionuclide study.
13. Ultrasound artifacts.
14. TLD badge.
15. Radiation protection gears in radiology dept.
16. Image production in sonography.
17. C.T. scan artifacts.
18. Hounsfield Unit (HU) in CT.
19. Contrast media in sonography.
20. Gamma camera principle.
21. Oral contrast used in CT abdomen study.

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THIRD YEAR B.Sc. ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

APPLIED ANAESTHESIA TECHNOLOGY – II

Q.P. Code: 1135

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 the scavenging systems of operation theatre
2. Discuss the safety features in Boyle's machine
3. Describe Guedel's stages of ether anaesthesia

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

4. Hanger and yoke system
5. Atracurium
6. Bain's circuit
7. Local anaesthetic drugs
8. Flowmeter assembly
9. Oropharyngeal airways
10. Uses of Ambu bag
11. Pulse oximetry

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

12. Pressure relief valve
13. Neostigmine
14. Venturi principle
15. Magill's forceps
16. Entonox
17. Allen's tests
18. Charles law
19. Combitube
20. Infusion pump
21. Tube exchanges

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THIRD YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

MICROBIOLOGY – III

Q.P. Code:1130

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 Hypersensitivity. Describe in detail type I hypersensitivity (4+6)
2. Write the clinical classification of fungal infections. Describe the infections caused by candida species and write a note on their laboratory diagnosis (3+3+4)
3. Describe morphology, antigens and genome of Human Immunodeficiency Virus. (HIV). Write the laboratory diagnosis of HIV infection (2+3+3+2)

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

4. Classify dermatophyte with **one** example each
5. Describe pathogenesis of Rabies
6. Mechanism of innate immunity
7. Describe dimorphic fungi with examples
8. Antigenic shift and drift
9. Describe delayed hypersensitivity with examples
10. Describe the laboratory diagnosis of Mycetoma
11. Mycotic poisoning

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

12. Draw a neat labelled diagram of IgA
13. Sabourads dextrose agar
14. Name **three** RNA viruses
15. Name **three** Arboviruses
16. Name **three** viruses causing respiratory infections
17. Name **three** opportunistic fungal infections in AIDS
18. Slide culture in fungal diagnosis
19. MMR vaccine
20. Name **three** viruses causing diarrhea
21. KOH preparation

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THIRD YEAR B.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

APPLIED PERFUSION TECHNOLOGY– II

Q.P. Code:1138

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. Explain about cardiopulmonary bypass in aortic arch surgery with reference to deep hypothermic circulatory arrest
2. Monitorings to say adequate perfusion during CPB
3. Discuss on various types of cardioplegia. Write about "ST-Thomas cardioplegia solution" ingredients & its importance

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

4. Blood conservation strategies
5. Unique features of pediatric CPB & myocardium
6. Protamine reactions
7. Venting of heart
8. Pulsatile perfusion
9. Massive Air embolism & its management
10. Respiratory acidosis management
11. Heparin resistance

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

12. Hemolysis during CPB
13. Colloid as prime
14. Diltiazem
15. Esmolol
16. NTG (nitroglycerine)
17. O_2 radical scavangers
18. Complications of venous cannulation
19. Ringer lactate
20. Syringe pumps
21. Left to right shunts

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THIRD YEAR B.Sc. RADIOGRAPHY
DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

RADIOGRAPHIC TECHNIQUE – II

Q.P. Code: 1133

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. What is radiographic contrast media? What are positive and negative contrast media? Name some ionic and non-ionic contrast media.
2. Describe preparation, procedure and uses of
   a) MRCP (Magnetic resonance cholangio-pancreatography)
   b) ERCP (Endoscopic retrograde cholangio-pancreatography)
3. What is barium enema? Discuss in detail.

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

4. Sialography
5. Peripheral venography
6. Small bowel enema
7. Asepsis followed by radiographer in radiology procedures
8. Per cutaneous renal puncture
9. Translumbar aortography
10. Percutaneous splenoportography
11. Mention various contrast media used in gastrointestinal tract and urinary system procedures.

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

12. Double contrast in barium meal
13. Guide wire
14. Pre requisites of intravenous pyelography (IVP)
15. Catheter used in cardiovascular procedures
16. Hysterosalphingiography (HSG)
17. Mammography
18. List three emergency drugs used in procedures
19. Micturatingcystourethrography (MCU)
20. Barium swallow in Tracheo-esophageal fistula
21. Mention three adverse reactions caused by contrast media.

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THIRD YEAR B.Sc. ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours Max. Marks: 80

APPLIED ANAESTHESIA TECHNOLOGY – III

Q.P. Code: 1136

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. Define caudal anaesthesia and enumerate its complications
2. Discuss history of anaesthesia
3. Describe intensive coronary care unit. Add a note on advanced cardiac life support

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

4. Total parental nutrition
5. Sellick'sManouvere
6. Post-operative care
7. Extubation criteria
8. Arterial blood gas analysis
9. Adrenaline
10. Colloids
11. Sterilization of anaesthesia equipment

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

12. Recovery position
13. Endotracheal tubes
14. Caudal block
15. PEEP
16. Propofol
17. Laryngeal Mask Airway
18. Mendelson's syndrome
19. Spinal needle
20. Balanced anaesthesia
21. Xylocaine

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THIRD YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – AUGUST 2020

Time: 3 Hours **Max. Marks: 80**

BIOCHEMISTRY – III

Q.P. Code:1131

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. Mention the normal pH of blood? Give the detail account of regulation of pH of blood.
2. Outline the steps of beta oxidation of palmitic acid and add a note on its energetics.
3. Give an account of dietary sources, RDA, absorption, functions and deficiency manifestation of iron. (2+1+3+1+3)

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

4. Discuss Levy Jennings chart.
5. Discuss any **one** test done to assess the tubular functions of the kidney.
6. Discuss the principle in Enzyme Linked Immunosorbert Assay (ELISA) and mention any **two** applications.
7. Discuss the biochemical findings in metabolic acidosis. Mention any **two** causes.
8. Discuss the various enzymes in the panel of liver function test.
9. Discuss the metabolism of bile acids.
10. Mention the normal composition of gastric juice. Add a note of achlorhydria.
11. Discuss Ketogenesis & Ketolysis.

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

12. Discuss LDH and its isoenzymes.
13. List any **three** functions of calcium.
14. Mention the enzyme defect and clinical findings in albinism.
15. Mention the biochemical findings in Nephrotic syndrome.
16. Discuss the Benzidine test.
17. Discuss post analytical errors.
18. List any **three** functions of phospholipids.
19. Explain the theory of renal calculi formation.
20. Mention the normal range of specific gravity of urine. How it is measured.
21. Discuss augmented histamine test.

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Time: 3 Hours **Max. Marks: 80**

APPLIED PERFUSION TECHNOLOGY – III

Q.P. Code:1139

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. Write in details about CBD for non-cardiac surgeries
2. Draw normal IABP trace. What are its indications
3. Describe conventional ultra-filtration. Modified ultrafiltration & zero balance ultra-filtration

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

4. Blood glucose & CPB
5. VA ECMO indications
6. Indications of venting
7. Cannulation for minimal invasive cardiac surgery
8. Anti fibriholytics indications
9. Thromboelastogram monitoring
10. Weaning of ECMO
11. Artificial heart

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

12. Checklist on pump
13. Oral anticoagulants
14. Loop diuretics
15. Antiplatelet
16. Leucocyte depletion Filters
17. Calcium paradox
18. Noradrendline
19. Monitoring in ECMO
20. Collapsible reservoir
21. Platelet dysfunction

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