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)**

SECOND YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – JANUARY 2020

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

MICROBIOLOGY – II

Q.P. Code: 1107

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. Enumerate organisms causing lower respiratory tract infections. Write in detail laboratory diagnosis of pulmonary tuberculosis. (2+8)

2. Describe morphology and cultural characteristics of vibrio cholerae. Write pathogenesis and laboratory diagnosis of cholera. (2+2+2+4)

3. Describe morphology and life cycle of Entamoeba histolytica. Write pathogenesis and laboratory diagnosis of amoebic dysentery. (2+2+2+4)

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

4. Classify Streptococci with examples
5. Nagler reaction
6. Screening tests for urinary tract infections
7. Actinomycotic mycetoma
8. Pathogenicity of Haemophilus influenzae
9. Free living amoebae
10. Life cycle of Plasmodium falciparum
11. Trichinella spiralis

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

12. Clostridium difficile
13. Diagnosis of carriers of salmonella
14. Classification of non tuberculous mycobacteria
15. Microscopy in diagnosis of syphilis
16. Significant bacteriuria
17. Oxidase test
18. Casoni's test
19. Draw neat labeled diagram of Taenia solium egg
20. Sedimentation methods of stool concentration
21. List **three** diarreagenic E.coli

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SECOND YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – JANUARY 2020

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

BIOCHEMISTRY – II

Q.P. Code: 1108

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**

22. Define enzymes. Discuss the role of various factors affecting enzyme activity. (1+9)
23. Describe vitamin C under following headings:
    a) RDA
    b) Sources
    c) Chemistry
    d) Biochemical functions
    e) Deficiency manifestations (1+1+1+4+3)
24. Define glycolysis. Discuss the steps energetics and importance of the pathway. (1+4+3+2)

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

25. Glucose tolerance test
26. Agarose gel electrophoresis
27. Functions of vitamin A
28. Functions of Immunoglobulins
29. Chromatography
30. Preanalytical errors in clinical laboratory
31. Beriberi
32. Complications of diabetes mellitus

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

33. Glycogenolysis
34. Pattern of protein electrophoresis in multiple myeloma
35. Write reference ranges of
    a) Serum bilirubin
    b) Serum amylose
    c) Serum alkaline phosphates
36. Reagents used for detection of glucose in urine
37. Isoenzymes
38. Rickets
39. Role of hyperglycemic hormones
40. Principle of atomic absorption spectrometry
41. Diagnostic significance of serum Creatinine
42. Lab diagnosis of diabetes mellitus

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THIRD YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – JANUARY 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**

43. Describe the method of collection of blood from the donar in blood bank. Add note on selection of donar for blood donation
44. What are the different cytologic sampling methods of respiratory tract? Describe the cytology of squamous carcinoma of lung in sputum/bronchial secretion
45. Describe the technique of collection of sample of PAP smear for screening of carcinoma cervix. Add a note on procedure of papanicolaou's staining

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

46. May-Grunwald Giemsa stain
47. Whole blood and its application
48. Coomb's test
49. Mesothelial cells
50. Immunocyto chemistry
51. Cell blocks
52. The normal histology of stomach
53. Cytological features of carcinoma cervix

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

54. List the various cytological indices in hormone cytology
55. What is abrasive cytology? Give **one** example
56. What are the features of cancer cell
57. Barr body
58. Uses of packed red cells
59. Uses of electron microscope
60. Principle of flow cytometry
61. Normal histology of thyroid
62. CSF in tubercular meningitis
63. Name different anticoagulants used in blood bank

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THIRD YEAR B.Sc. RADIOGRAPHY
DEGREE EXAMINATION – JANUARY 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. Enumerate various ultrasound transducers and draw neat diagram of transducer and label it
2. Describe various pulse sequences of MRI
3. What are the basics of nuclear imaging, describe the functioning pf a PET scanner with commonly used isotopes in PET scanning

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

4. Explain image reconstruction in CT
5. Discuss rectilinear scanner
6. Quality assurance in nuclear medicine imaging
7. Gamma camera
8. Duplex scan
9. Describe data acquisition in CT scan
10. Explain radioactive transformation
11. Virtual CT colonoscopy

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

12. Gradient coil
13. CT image artifacts
14. Contrast reaction
15. Acoustic impedance
16. Mention various CT guided interventional procedure
17. M mode in ultrasound
18. Receiver coils in MRI
19. Radio Immuno Assay (RIA)
20. Shim Coils
21. CT contrast agents

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

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

PAPER-I BASICS OF 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. Describe designing and methodology of the research project
2. Discuss the biomedical waste and its management
3. Discuss about operation room fire and explosion

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

4. Different methods of collecting data
5. Chi square test
6. Mean
7. Different parameters in multipara monitor. Explain importance of NIBP
8. Significance of sampling variability
9. Central monitoring in ICU set up
10. Basic structure of a computer
11. Maintenance of anaesthesia monitors

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

12. Significance of ‘p’ value
13. Causes of false readings on pulse oxymeter
14. Consumer protection act
15. Describe different methods of analyzing the data
16. Earthing in operation room
17. Histogram
18. Describe Null Hypothesis
19. Informed consent
20. Define percentile with an example
21. Safety measures in operation room to staff and patients

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THIRD YEAR B.Sc. PERFUSION TECHNOLOGY
DEGREE EXAMINATION – JANUARY 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. What is sterilization? Explain different methods of sterilization with its advantages and disadvantages.
2. Explain principles of computer application in various fields.
3. What are indications of blood transfusion? Explain protocols for blood transfusion.

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

4. Measures of central tendency and dispersion
5. Explain need of biomedical waste management
6. Sampling and probability
7. Medico-legal responsibilities and duties of healthcare professionals
8. Safety measures for electro medical equipement.
9. Explain different categories of biomedical waste generated in hospital environment
10. Crystalloid priming fluids
11. Anticoagulation during CPB

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

12. Medical negligence
13. Percentiles
14. Standard deviation
15. Measures of central tendency
16. Needle stick injury
17. Cryoprecipitate
18. Static electricity
19. Normal distribution curve
20. Autologous blood donation
21. Basic structure of computer

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THIRD YEAR B.Sc. NEUROSCIENCE TECHNOLOGY DEGREE EXAMINATION – JANUARY 2020

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

BASIC NEUROSCIENCE PART- II

Q.P. Code:1193

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 seizure and epilepsy. Classify and explain types of seizures based on semiology
2. Classify brain tumors. Describe clinical features and management
3. Classify muscular dystrophies. Describe clinical features and management of Duchenne's muscular dystrophy

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

4. Parkinson's disease
5. Herpes simplex encephalitis
6. Acute ischemic stroke
7. Entrapment neuropathies
8. Dementia
9. Chronic inflammatory demyelinating polyneuropathy (CIDP)
10. Pyogenic meningitis
11. CNS demyelinating disorders

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

12. Myotonia
13. Parasomnias
14. Types of dystonias
15. Transient ischemic attack (TIA)
16. Myoclonus
17. Dermatomyositis
18. Charcot Marie Tooth disease (CMT)
19. Broca's aphasia
20. Cerebellar ataxia
21. Tremor

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THIRD YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – JANUARY 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. Define and classify immunity. Describe mechanism of innate immunity (2+3+5)
2. Classify hepatitis viruses. Describe pathogenesis and lab diagnosis of hepatitis B virus infection (3+3+4)
3. Classify fungal infections. Describe in detail about mycetoma (4+6)

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

4. Describe the structure and functions of IgG
5. Enumerate antigen-antibody reactions & write **two** diagnostic option for each
6. Describe polio vaccines
7. Write laboratory diagnosis of rabies
8. Discuss cultivation of viruses
9. Describe candidiasis
10. Enumerate infections caused by dermatophyte & write their laboratory diagnosis
11. Describe the infections caused and laboratory diagnosis of Cryptococcus species

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

12. Enumerate **three** applications of ELISA
13. What is passive immunity give **one** example
14. What are monoclonal antibodies? Give **one** application
15. Name any **three** viruses causing diarrhoea
16. Name any **three** oncogenic viruses
17. What are viral inclusion bodies? Give **two** examples
18. Name any **three** opportunistic fungal infections
19. Name any **three** species of Aspergillus
20. Name any **three** dimorphic fungi
21. Sabouraud dextrose agar

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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THIRD YEAR B.Sc. RADIOGRAPHY
DEGREE EXAMINATION – JANUARY 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. Describe in detail about pulmonary arteriography and coronary arteriography
2. What is the role of radiographer in the adverse reaction to contrast media?
3. Discuss in detail: a) Micturating cystourethrography
   b) Ascending urethrography

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

4. Percutaneous transhepatic choledochography
5. Lithotripsy
6. Hysterosalphingogram
7. Percutaneous lung biopsy
8. Renal arteriography
9. Sialography
10. CT myelography
11. Substraction radiography

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

12. Negative contrast media
13. Pelvimetry
14. Translumbar aortography
15. Percutaneous catheterization methods
16. Fistulography
17. List **three** ionic contrast media
18. Predominantly procedure preparations for ascending ureterography
19. Single contrast in barium meal
20. Lumbar discography
21. Internal Jugular venography

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THIRD YEAR B.Sc. ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION – JANUARY 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 different safety measures in anaesthesia machine.
2. Discuss the importance of preoperative anaesthetic evaluation & preparation

3. Describe the close circuit & discuss in detail absorption of CO_2 through sodalime

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

4. Describe in detail PIN-Index system
5. Describe pulse oxymetry
6. Preparation of PACU (Post Anaesthesia Care Unit)
7. Ayre's T-Piece
8. Masters slave mechanism
9. Describe entonox cylinder
10. Balanced anaesthesia
11. Describe different types of laryngoscope blades

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

12. Preparation of emergency drug box
13. Uses of North Pole Ring Adair Elwyn (R.A.E) tube
14. Complications of face mask ventilation
15. Indications & complications of Ryle's tube insertion
16. Magill's forceps
17. Cuffed endotracheal tube
18. Management of post-operative hypoxia
19. Buogies
20. Gamma ray sterilization
21. Inj. Glycopyrrolate

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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THIRD YEAR B.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION – JANUARY 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. Discuss the cannulation methods use in CPB. Explain in detail about peripheral cannulation

2. Explain components of CPB with a circuit diagram
3. Make a note on effects of CPB upon blood cell trauma

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

4. Laminar flow
5. Action mechanism of heparin
6. Heat exchanger
7. HIT
8. Priming fluids
9. Principles of bubble oxygenator
10. Cardioplegia
11. Blood pumps

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

12. Temperature probe
13. Colloids
14. Argatroban
15. Ringer lactate
16. Pre bypass check list
17. Importance of venting
18. Aseptic techniques
19. Rated blood flow
20. Coagulation pathway
21. Pulse oximeter

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THIRD YEAR B.Sc. NEUROSCIENCE TECHNOLOGY DEGREE EXAMINATION – JANUARY 2020

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

APPLIED TECHNOLOGY-III

Q.P. Code:1194

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. Polysomnography
2. Pediatric EEG
3. EEG in partial and generalized epilepsy

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

4. EEG in brain death
5. EEG maturation
6. Long term EEG monitoring
7. Brain mapping
8. EEG artifacts
9. Electrocardiography
10. EEG in metabolic encephalopthy
11. EEG in brain tumors

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

12. Hypsarrhythmia
13. Sharp waves
14. Sleep spindles
15. FIRDA
16. EEG in SSPE
17. Hyperventilation
18. EEG in Juvenile myoclonic epilepsy
19. Beta activity
20. Photoparoxysmal response
21. Benign variants

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THIRD YEAR B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION – JANUARY 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. What is the importance of maintaining acid base balance in the body? Write in detail how kidney helps in maintaining acid base balance. (2+8)

2. Write the sources, RDA biochemical functions, and absorption & deficiency manifestations of calcium. (1+1+4+1+3)

3. Describe the regulation & disorders of potassium balance. (1+3+6)

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

4. Vanden Bergh's reaction (Principle) & its significance
5. Hippuric acid test
6. Standard urea clearance test
7. Functions of iron and factors affecting iron absorption in intestine
8. Tests of tubular function
9. Pentagastrin stimulation test
10. Enzyme marker in myocardial infarction
11. Theory of formation & analysis of renal calculi

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

12. Types of errors
13. Variance index score
14. Components of laboratory automation
15. Dry chemistry analysis
16. Albumin/globulin ratio significance
17. Applications of radio Immuno assay (RIA)
18. Acid phosphatase
19. Creatine Kinase (CK)
20. Maple Syrup Urine disease (MSUD)
21. Homocystinurias

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THIRD YEAR B.Sc. ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION – JANUARY 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. What are the indications of caudal epidural anaesthesia in pediatric patients undergoing surgery? Describe the technique & its complications

2. Preanaesthetic evaluation & management of a 75 years old lady scheduled for between total knee replacement (TKR)
3. What are the limitations & hazards of providing anaesthesia in a MRI suite? What are the precautions to be taken before taking up the patient for MRI?

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

4. Brachial plexus block. Indications, techniques & complications
5. Massive blood transfusion. Definition & complication
6. Weaning from ventilator: parameters & modes of weaning
7. Central venous catheter insertion: explain various techniques and importance
8. Define shock. Classify different types of shock.
9. Preoperative evaluation patient with COPD for laproscopic cholecystectomy
10. Blood supply of spinal cord
11. Enumerate various oxygen delivery devices. What is venturi principle?

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

12. Factors affecting the spread of spinal anaesthesia
13. Methods to prevent hypothermia in operation theatre
14. Heparin-indications, route of administration
15. Uses, dose & side effects of Oxytocin
16. Fluid management in a patient of polytrauma
17. Intraoperative cardiac arrhythmias
18. Various methods to treat pain in postoperative period
19. Enumerate the drugs used to provide hypotensive anaesthesia
20. What is day care anaesthesia?
21. What is Minimum Alveolar Concentration (MAC)

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

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. Cardiopulmonary bypass in pediatric surgery
2. Write an essay on causes of emboli during cardiopulmonary bypass & methods to minimize effects
3. Explain the methods to conserve blood during CPB

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

4. Smart cannulae
5. LVAD
6. Hemolysis during cardiopulmonary bypass & its prevention
7. Heparin induced thrombocytopenia
8. Advances in CPB circuit
9. Heparinoids
10. Explain "No-Flow" phenomena
11. Enumerate the laws governing cardiopulmonary bypass

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

12. Coated Circuit
13. Low molecular weight heparin
14. Cardiotomy reservoir
15. Indications for ECMO
16. Inflammatory cascades
17. Pump lung
18. Level sensor
19. Microplegia
20. Possible cannulation sites for Veno-Arterial ECMO
21. Complications of blood transfusion

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THIRD YEAR B.Sc. NEUROSCIENCE TECHNOLOGY DEGREE EXAMINATION – JANUARY 2020

Time: 3 Hours Max. Marks: 80

APPLIED TECHNOLOGY-IV

Q.P. Code: 1195

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. Physiological variables affecting nerve conductions
2. Evoked potentials in CNS disorders
3. Intraoperative monitoring

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

4. F response
5. Nerve conductions in demyelinating neuropathies
6. Single fibre EMG
7. Somatosensory evoked potential
8. EMG in motor neuron disease
9. TMS (Transcranial Magnetic Stimulation)
10. Repetitive nerve stimulation
11. Nerve conduction study in brachial plexopathy

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

12. Conduction block
13. Sensory nerve action potential (SNAP)
14. Complex repetitive discharges
15. Interference pattern
16. Jitter
17. M wave
18. Blink reflex
19. Electronystagmogram
20. Macro EMG
21. P100

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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**

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

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

67. Latex allergy
68. Skewed distribution
69. Chi square test
70. Glasgow Coma Scale
71. Fire hazards
72. Sir Ivan Magill
73. Monitoring in anaesthesia
74. Scavenging system

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

75. ASA grading
76. Record keeping
77. Percentile
78. Gum elastic bougie
79. Uses of 't' tests
80. CO_2 absorber
81. Informed consent
82. Type I error
83. Universal precautions
84. 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's stain
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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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. 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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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) Placed in 'A' Category by MHRD (GoI)

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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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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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**

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**

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

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

88. Hanger and yoke system
89. Atracurium
90. Bain's circuit
91. Local anaesthetic drugs
92. Flowmeter assembly
93. Oropharyngeal airways
94. Uses of Ambu bag
95. Pulse oximetry

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

96. Pressure relief valve
97. Neostigmine
98. Venturi principle
99. Magill's forceps
100. Entonox
101. Allen's tests
102. Charles law
103. Combitube
104. Infusion pump
105. Tube exchanges

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

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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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

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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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

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. Hystero salphingiography (HSG)
17. Mammography
18. List three emergency drugs used in procedures
19. Micturating cystourethrography (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**

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

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

109. Total parental nutrition
110. Sellick's Manouvere
111. Post-operative care
112. Extubation criteria
113. Arterial blood gas analysis
114. Adrenaline
115. Colloids
116. Sterilization of anaesthesia equipment

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

117. Recovery position
118. Endotracheal tubes
119. Caudal block
120. PEEP
121. Propofol
122. Laryngeal Mask Airway
123. Mendelson's syndrome
124. Spinal needle
125. Balanced anaesthesia
126. Xylocaine

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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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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THIRD YEAR B.Sc. PERFUSION TECHNOLOGY
DEGREE EXAMINATION – AUGUST 2020

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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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN ANESTHESIA TECHNOLOGY -V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

ANAESTHESIA TECHNOLOGY

Q.P. Code:1987

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**

22. Discuss peri operative management of pregnancy induced hypertension (PIH) with severe features in terms of
    a) Pre-operative preparation (2)
    b) Intra-operative management (5)
    c) Post-operative monitoring (3)
23.
    a) Discuss acid aspiration syndrome (Mandelson Syndrome) (4)
    b) How it can be prevented? (2)
    c) Describe management of acid aspiration syndrome (4)
24. Discuss different modes of mechanical ventilation.

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

25. Methods of Painless Vaginal delivery. (Labour analgesia technique)
26. Cementing technology & its complications in joint replacement surgery
27. Peri cutaneous tracheostomy
28. Bispectral index (BIS) monitoring during anaesthesia
29. Techniques to improve tissue O2 delivery
30. Proscal LMA
31. Pulse oximetry in anaesthesia practice

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

32. PEEP (Positive End Expiratory Pressure) in mechanical ventilation.
33. CPAP (Continuous Positive Airway Pressure)
34. Computers in anaesthesia
35. Auto transfusion techniques for blood replacement
36. Post anaesthesia recovery score

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN MEDICAL LABORATORY TECHNOLOGY-V SEMESTER SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

CLINICAL BIOCHEMISTRY-II

Q.P. Code:1982

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 the sources, RDA, functions, deficiency and regulation of calcium.
2. What are restriction endonucleases? Describe the technique and applications of Recombinant DNA technology.
3. Name the inborn errors associated with aminoacid metabolism. Describe the biochemical defect and diagnosis of any 3 disorders.

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

4. Renal stone analysis.
5. Auto analysers: Key features and uses in clinical laboratory.
6. Mention the basic components of blood gas analyser. Add a note on principle and estimation of blood pH.
7. Gastric function tests.
8. Describe the process of laboratory accreditation. Add a note on importance of accreditation in laboratory.
9. Biomedical waste management.

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

10. Laboratory diagnosis of Hypothyroidism.
11. Define accuracy and precision.
12. What is AG ratio? Mention the causes for altered AG ratio.
13. Role of enzymes in the diagnosis of pancreatic diseases.
14. Mention the sources and applications of radioisotopes.

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN PERFUSION TECHNOLOGY-V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

ADVANCED PERFUSION TECHNOLOGY-I

Q.P. Code:1992

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

Question Number **Marks**

LONG ESSAY QUESTIONS: **2 X 10 = 20**

1. What are the various perfusion related problems associated with cardiopulmonary bypass and its management?

2. Describe various coagulopathies due to cardiopulmonary bypass and its management

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. What are non-cardioplegic methods of myocardial protection in cardiac surgery
4. Effects of cardiopulmonary bypass on lung
5. Custodial cardioplegia
6. Perfusate composition in paediatric perfusion
7. Causes of high line pressures during cardiopulmonary bypass

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

8. Heparin less bypass
9. Contract activation in CPB
10. Antegrade cardioplegia delivery
11. Hematological effects of pulsatile flow
12. Causes of poor venous return in CPB

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN RADIOGRAPHY-V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

RADIOGRAPHIC TECHNIQUE-II

Q.P. Code:1985

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

Question Number **Marks**

LONG ESSAY QUESTIONS: **2 X 10 = 20**

1. Explain indications, contraindications, patient preparation, procedure and filming for MUV
2. Explain the anatomy of Hepato Biliary system name the procedures to study Hepato Biliary system. Discuss in detail indications, contraindications and techniques for PTC

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Explain indications, procedures and filming for MRCP
4. Explain indications, contraindications and technique of Fallopian Tube Recanulisation (FTR)
5. List out the indications, contraindications, preparation and requirements for Barium meal follow through
6. Ascending urethrography
7. Classify catheters. Explain the catheters used for different studies

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

8. Non Ionic contrast media
9. Sonosalpingography
10. Patient preparation for myelogram
11. Technique for percutaneous trans luminal angioplasty
12. Patient preparation for barium enema

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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)**

B.SC. IN ANESTHESIA TECHNOLOGY-V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

REGIONAL ANAESTHESIA TECHNOLOGY

Q.P. Code:1988

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**

37. Discuss in detail about brachial plexus nerve block including its various approaches

38.
    a) What are the potential advantages of ultrasound guided nerve blocks? (4)
    b) Mention various drugs used for peripheral nerve blocks (6)

39.
    a) How are local anaesthetic drugs classified? (2)
    b) Elaborate on toxicity of various local anaesthetic drugs and their diagnosis (4)
    c) Management of local anaesthetic drug toxicity (4)

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

40. What is post dural puncture headache (PDPH) how is it managed?
41. Complications of peripheral nerve blockade
42. Designs of spinal and epidural needles; advantages , disadvantages and uses
43. I.V.R.A technique
44. Difference between anaphylactic and anaphylactoid adverse drug reactions. How to manage them
45. Addictive drugs for intrathecal local anaesthetic drugs; advantages and disadvantages
46. Write a note on labour analgesia

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

47. Femoral nerve block
48. Epidural steroid injection
49. Lignocaine hydrochloride
50. Epidural blood patch
51. Uses of combined spinal epidural anaesthesia (CESA)

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.Sc. IN MEDICAL LABORATORY TECHNOLOGY–V SEMESTER SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

CYTOLOGY & CYTOGENETICS

Q.P. Code:1983

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 chromosome banding? Describe the various banding techniques for characterization of human chromosomes? (2+8)

2. What is cancer screening? Describe the cytologic screening of cervical cancer. Add a note on follow up of such cases. (2+5+3)

3. Describe the steps in blood donor screening. Add a note on safe and unsafe donor. (6+2+2)

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

4. Karyopyknotic index.
5. Cytology of malignant effusions.
6. Role of automation in cytology.
7. Describe Rhesus blood group.
8. Principle and procedure of coomb's test.
9. Karyotypic analysis of peripheral blood lymphocytes.

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

10. How do you prepare 3% cell suspension?
11. Criteria for universal donor.
12. Enumerate fixatives for cytology samples.
13. Cytologic characteristic of malignant cell.
14. Sex chromosome identification.

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN PERFUSION TECHNOLOGY -V SEMESTER

SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

ADVANCED PERFUSION TECHNOLOGY-II

Q.P. Code:1993

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

Question Number **Marks**

LONG ESSAY QUESTIONS: **2 X 10 = 20**

1. What is ECMO? Explain the following (2)
   a) VA ECMO
   b) VV ECMO
   c) Indications & contraindications
   d) Complications (2+2+2+2)

2. Describe various Assist devices used in cardiac surgery

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Types of cardioplegia cannulation in MICS
4. Venoarterial & Venovenous extracorporeal membrane oxygenation
5. Retrograde cerebral perfusion with circuit diagram
6. Difference between ECMO & CPB
7. DHCA

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

8. Blood gas strategies followed in paediatric CPB
9. delNido cardioplegia
10. Endoaortic cross clamp
11. Complications of IABP
12. What is Extracorporeal CO_2 removal

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN RADIOGRAPHY-V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

IMAGING TECHNIQUE

Q.P. Code:1986

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

Question Number **Marks**

LONG ESSAY QUESTIONS: **2 X 10 = 20**

1. Explain the techniques to optimize SNR in MRI
2. List artifacts in CT scanner. Explain any five artifacts in detail

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Fresnel zone and frahnhoffer zone in ultra sound beam
4. Safe handling of radioactive materials
5. Write a short note on incoherent gradient ECHO
6. Describe the types of collimators used in gamma camera
7. Write short note on different zones in MRI

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

8. Slip ring technology
9. Intra voxel Dephasing
10. Window width and window level
11. Focusing and steering of ultrasound BEAM
12. Quenching

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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)**

B.SC. IN ANESTHESIA TECHNOLOGY -V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

ANAESTHESIA FOR PATIENTS WITH MEDICAL DISORDERS

Q.P. Code:1989

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**

52.
a) Describe types of Hypertension (2)
b) Discuss perioperative management of a patient with uncontrolled severe hypertension posted for emergency laparotomy (5)
c) What are possible complications? How to monitoring during postop period? (3)

53.
a) Discuss techniques of anaesthesia for a 60 year old female with uncontrolled diabetes mellitus for amputation below knee (8)
b) How will you take care of the patient in post anaesthesia recovery unit?

54. Discuss anaesthetic management of a patient with Bronchial asthma

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

55. Day care anaesthesia
56. Types of insulin preparations. Indications for their use
57. Oral antidiabetic medication and their anaesthetic implications
58. Write a note on Haemodialysis
59. Methods/strategies to avoid bronchospasm during anaesthesia in asthmatic patients
60. Control of blood pressure in pre eclampsia patient
61. Oxygen therapy in post-operative

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

62. Post anaesthetic shivering and its management
63. Confirmation of proper placement of Double lumen tube
64. IABP (Intra-Aortic Balloon Pump)
65. HELLP Syndrome
66. Air embolism

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.Sc. IN MEDICAL LABORATORY TECHNOLOGY–V SEMESTER SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

PARASITOLOGY & MYCOLOGY

Q.P. Code:1984

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

Question Number **Marks**

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

1. Enumerate parasites causing diarrhoea. Describe the pathogenesis and laboratory diagnosis of Entamoeba histolytica (3+3+4)
2. Describe the life cycle, laboratory diagnosis and prevention of Malaria (4+4+2)
3. Classify fungus. Describe the pathogenesis and laboratory diagnosis of Dermatophyte (3+3+4)

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

4. Opportunistic mycosis
5. Giardia lamblia
6. Candida albicans
7. Cryptococcus neoformans
8. Stool concentration techniques
9. Life cycle of Hook worm

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

10. Draw a neat labelled diagram of Trichomonas vaginalis
11. Name **three** dimorphic fungi
12. Bile stained eggs
13. Aspergillus
14. Draw neat labelled diagram of Taenia egg.

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B.SC. IN PERFUSION TECHNOLOGY -V SEMESTER
SEPTEMBER 2020

Time: 3 Hours Max. Marks: 60

CPR & LIFE SUPPORT

Q.P. Code:1994

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

Question Number **Marks**

LONG ESSAY QUESTIONS: **2 X 10 = 20**

1. Explain the management of Myocardial infarction patient in the ICU
2. Describe the management of cardiovascular failure patients

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Role of chest physiotherapy in cardiac patients
4. Importance of fluid management in ICU
5. Criteria to fulfill adequate ventilation
6. Explain renal failure
7. Airway management in ACLS

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

8. Invasive hemodynamic monitoring in ICU
9. Parenteral nutrition
10. Defibrillators and its uses
11. Bladder care in intensive care
12. One rescuer BLS in children

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN RADIOGRAPHY-IV SEMESTER
DECEMBER 2020

Time: 3 Hours Max. Marks: 60

PHYSICS OF RADIOLOGY

Q.P. Code:1966

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

Question Number **Marks**

LONG ESSAY QUESTIONS (All are compulsory): **2 X 10 = 20**

1. Name the quality assurance tests for x-ray equipments. Describe any five QA tests in detail.

2. Describe about dedicated x-ray mammography unit.

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Mobile x-ray unit
4. Construction and working of image intensifier tube
5. Linear tomography and its principle
6. Switches
7. Earthing

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

8. Inverse square law
9. Rectification
10. Electromagnetic spectrum
11. Magnification radiography
12. Anode angle and its importance

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(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)**

B.SC. IN RADIOGRAPHY-IV SEMESTER
DECEMBER 2020

Time: 3 Hours Max. Marks: 60

RADIOGRAPHY TECHNIQUE-I

Q.P. Code:1967

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

Question Number **Marks**

LONG ESSAY QUESTIONS (All are compulsory): **2 X 10 = 20**

1. Draw a labelled diagram of lumbar vertebrae explain in detail flexion and extension radiography views of lumbar vertebrae.

2. Discuss in detail about pediatril radiography.

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Lateral view of sella turcica
4. Judd method for cervical spine
5. Orthopantomography
6. Sky cline view of patella
7. Frug leg projection

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

8. Differences between abdomen and KUB radiography
9. Anterior oblique view of petrous bone
10. Tangential projection for nasal bones
11. Lateral view of neck
12. Mortice view

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN RADIOGRAPHY-IV SEMESTER
DECEMBER 2020

Time: 3 Hours Max. Marks: 60

QUALITY CONTROL, RADIOBIOLOGY AND RADIATION SAFETY IN RADIODIAGNOSIS/ IMAGING

Q.P. Code:1968

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

Question Number **Marks**

LONG ESSAY QUESTIONS **2 X 10 = 20**

1. Discuss briefly the factors affecting the calculation for primary and secondary shielding
2. Discuss briefly radiation signages with the help of diagrams

SHORT ESSAY QUESTIONS (All are compulsory): **5 X 5 = 25**

3. Acute radiation syndrome
4. Discuss in detail cell radio sensitivity
5. Compare TLD and optically stimulated luminescence dosimeter
6. Towne's view
7. Protection in radiography

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

8. Occupational exposure limits
9. Ten day rule
10. Half value thickness
11. Tissue weighting factor
12. Equivalent and effective dose

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN ANESTHESIA TECHNOLOGY/PERFUSION TECHNOLOGY/CARDIAC CARE TECHNOLOGY -IV SEMESTER DECEMBER 2020

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. Enumerate various types of intravenous fluids. Discuss their therapeutic uses with suitable examples? (4+6)
2. Classify fluoroquinolones. Explain the mechanism of action, therapeutic uses and adverse effect of ciprofloxacin? (3+1+4+2)
3. Classify anti-coagulant drugs. Explain the mechanism of action, therapeutic uses and adverse effect of heparin? (3+1+3+3)

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

4. Name **five** pre-anesthetic medication and their therapeutic uses.
5. Name **five** anti-arrhythmic drugs, their therapeutic uses and adverse effect
6. Name **five** iron preparation, their therapeutic uses and adverse effect
7. Discuss **five** drugs in management of congestive cardiac failure
8. Mention **five** benzodiazepam their therapeutic uses and adverse effect
9. Name **five** inhalational general anesthetics their therapeutic uses and adverse effect
10. Name **five** penicillin their therapeutic uses and adverse effect

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

11. Name **three** anti-tubercular drugs their therapeutic uses and adverse effect
12. Mention **three** merits and de-merits of combining lignocaine and adrenaline
13. Name **three** immunnomodulatory drugs their therapeutic uses and adverse effect
14. Name **three** cephalosporin their therapeutics uses and adverse effect
15. Discuss **three** aminoglycosides their therapeutics uses and adverse effect
16. Name **three** barbiturates their therapeutics uses and adverse effect
17. Mention **three** advantages co-trimaxozole
18. Mention **three** therapeutics uses and adverse effect of nitroglycerine
19. Mention **three** clinical uses of alcohol
20. Name **three** anti-epileptic drugs their therapeutic uses and adverse effect

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Accredited 'A' Grade by NAAC (2nd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. MLT/ RADIOGRAPHY / ALLIED HEALTH SCIENCES
B.SC. IN RENAL DIALYSIS TECHNOLOGY
I SEMESTER – DECEMBER 2020

Time: 3 Hours Max. Marks: 60

HUMAN ANATOMY

Q.P. Code:1901

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**

67. Describe the right lung under following headings:
    a) Impressions of the mediastinal surface.
    b) Broncho pulmonary segments. (5+5)

68. Describe heart under following headings (4+2+4)
    a) External features
    b) Coverings
    c) Inferior of right ventricle

69. Describe Larynx under following headings:
    a) Extent & relations
    b) Intrinsic muscles
    c) Nerve supply
    d) Applied anatomy

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

70. Types of bones
71. Pericardium
72. Histology of lung
73. Classify fibrous joints
74. Blood supply of heart
75. Pleura
76. Functional areas of cerebral hemisphere

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

77. Write the features of typical synovial joint
78. Name the meninges covering cerebrum
79. Name the lymphoid organs
80. Name the paranasal air sinuses
81. Define the terms ponation & supination

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B.SC. IN ANESTHESIA TECHNOLOGY/PERFUSION TECHNOLOGY/CARDIAC CARE TECHNOLOGY -III SEMESTER DECEMBER 2020

Time: 3 Hours Max. Marks: 80

APPLIED PHARMACOLOGY

Q.P. Code:1917

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. Enumerate merits and demerits of various routes of drug administration with suitable examples?
2. Classify bronchodilators. Explain the mechanism of action, therapeutic uses and adverse effect of salbutamol? (4+1+3+2)
3. Classify antithyroid drugs. Explain the mechanism of action, therapeutic uses adverse effect of Radioactive Iodine? (3+1+3+3)

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

4. Therapeutic uses, mechanism of action and adverse effect of D-tubocurarine
5. Therapeutic uses, mechanism of action and adverse effect of Morphine
6. Therapeutic uses, mechanism of action and adverse effect of Atropine
7. Factors affecting drug absorption
8. Drug dependence
9. Therapeutic uses, mechanism of action and adverse effect of Insulin
10. Therapeutic uses, mechanism of action and adverse effect of Propranolol

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

11. Name any three fixed dose combination and their uses
12. Name any three teratogenic drugs and its effect
13. Enumerate three therapeutic uses of Adrenaline
14. Drug synergism
15. Enumerate tree therapeutic uses and adverse effect of Corticosteroids
16. Bioavailability
17. Treatment of organophosphorus poisoning
18. Tachphylaxis
19. Enumerate three adverse effect of Aspirin
20. Enumerate three therapeutic uses of Pheneramine maleate

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B.Sc. MLT / RADIOGRAPHY / ALLIED HEALTH SCIENCES
B.SC. IN RENAL DIALYSIS TECHNOLOGY
I SEMESTER – DECEMBER 2020

Time: 3 Hours **Max. Marks: 60**

HUMAN PHYSIOLOGY-I AND BIOCHEMISTRY

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
Use separate answer books for Section A and Section B

SECTION A : HUMAN PHYSIOLOGY-I Q.P. CODE : 1902 [30 Marks]

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any ONE): **1 X 10 = 10**

82. Trace the course for auditory pathway. Add a note on hearing tests (8+2)
83. Classify leucocytes. Explain the structure, functions and variations of them. (2+5+3)

SHORT ESSAY QUESTIONS (Answer any TWO): **2 X 5 = 10**

84. Neuromuscular junction
85. Types of Immunity
86. Taste pathway

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 2 = 10**

87. Classify body fluid compartments
88. Accommodation
89. Functions of Basal ganglia
90. Components of reflex arc
91. Mitochondria

SECTION B : BASICS OF BIOCHEMISTRY…Q.P. CODE : 1903 [30 Marks]

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any ONE): **1 X 10 = 10**

1. What are proteins? Classify proteins based on their composition, biological functions and nutritional requirement (2+8)
2. Define carbohydrates. Write in brief on biological importance of carbohydrates & add a note on polysaccharides (1+4+5)

SHORT ESSAY QUESTIONS (Answer any TWO): **2 X 5 = 10**

3. Write in detail about the principle and applications of pH meter (3+2)
4. What are lipoproteins? Name the lipoproteins & write their functions (1+2+2)
5. Explain the double helical structure of DNA with a diagram

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 2 = 10**

6. Define the following: a) Normality b) Molarity c) Buffers
7. Mention the different types of RNA along with their functions
8. What are disaccharides? Give examples
9. Define primary and secondary standards
10. Mention the various uses of pipettes in laboratory

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B.SC. IN ANESTHESIA TECHNOLOGY-III SEMESTER DECEMBER 2020

Time: 3 Hours Max. Marks: 80

INTRODUCTION TO ANESTHESIA TECHNOLOGY

Q.P. Code:1918

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 principles of pulse –oximetry. Describe sites for application of pulse-oximeter probe
2. Describe instruments used for temperature monitoring
3. Define nebulizers, mention their types, uses and advantages

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

4. Describe various types of Breathing circuits
5. Discuss the causes and prevention of fire in the operation theatre
6. Describe various intubation acid used in anaesthesia
7. Describe the testing of open and closed breathing circuits
8. Explain different sizes colour cooking of the cylinders
9. Explain safety features in Oxygen and Nitrous Oxide gas cylinders
10. Define E TCO_2. Mention its uses in anaesthesia practice

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

11. Testing for incompetent unidirectional values in anaesthesia machine
12. Checking of tracheal tubes before anaesthesia
13. Endotracheal tube cuff pressure monitoring
14. Preventive maintenance of anaesthesia equipment
15. Use of respirometers in anaesthesia
16. Estimation of endotracheal tube size & securing an endotracheal tube after intubation
17. Nasopharyngeal airway
18. Types of face masks used in children
19. Advantages of low flow anaesthesia
20. Pin-index safety system

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Time: 3 Hours **Max. Marks: 60**

HEMATOLOGY & CLINICAL PATHOLOGY AND MICROBIOLOGY-I

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
Use separate answer books for Section A and Section B

SECTION A : PATHOLOGY- BASIC HAEMATOLOGY Q.P. CODE : 1904 [30 Marks]

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any ONE): **1 X 10 = 10**

92. Describe the procedure for collection of blood sample in hematology laboratory. Add a note of preservation of blood sample for various hematology investigations (6+4)
93. Describe the procedure for estimation of packed cell volume. Enumerate Red Cell Indices. Explain the method of calculation of red cell indices. Mention the normal values of PCV and Red Cell Indices (4+2+4)

SHORT ESSAY QUESTIONS (Answer any TWO): **2 X 5 = 10**

94. Describe reticulocyte. What is the clinical significance of reticulocyte count
95. Describe the principles & methods of blood grouping. List the various blood group systems
96. Describe the composition of wright stain. Describe preparation and procedure of staining peripheral smear using wright's stain

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 2 = 10**

97. Enumerate the sites of bone marrow aspiration
98. Mention normal values of total WBC count and differential Leucocyte count in adults
99. Describe briefly about westergren pipette
100. Enlist the safety measures in hematology laboratory
101. Enumerate the functions of WBC's

SECTION B : MICROBIOLOGY-I…Q.P. CODE : 1905 [30 Marks]

Question Number **Marks**

LONG ESSAY QUESTIONS (Answer any ONE): **1 X 10 = 10**

11. D efine the terms-sterilization, disinfection and Antisepsis. Classify the methods of sterilization. Describe steam sterilization (3+3+4)
12. E numerate various microscopes used in microbiology. Describe the principle, limitations and applications of Light Microscope (2+2+2+4)

SHORT ESSAY QUESTIONS (Answer any TWO): **2 X 5 = 10**

13. Hot Air Oven
14. Koch's Postulates
15. Bacterial Growth Curve

SHORT ANSWER QUESTIONS (All are compulsory): **5 X 2 = 10**

16. Name any **three** articles sterilized by membrane Filtration
17. Name any **three** common antiseptics
18. Mention any **one** important contribution of: a) Alexander Fleming b) Leeuwenhoek c) Metchnikoff
19. Name any **three** qualities of good disinfectant
20. Transformation

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B.SC. IN ANESTHESIA TECHNOLOGY -III SEMESTER
DECEMBER 2020

Time: 3 Hours Max. Marks: 80

APPLIED TECHNOLOGY IN ANESTHESIA

Q.P. Code:1919

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. Epidural anaesthesia
2. Discuss monitoring during General anaesthesia
3. Distinguish between Depolarizing and non-depolarizing muscle relaxants

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

4. Written and valid consent for anaesthesia and surgery
5. Importance of stopping smoking and anaesthesia
6. Enumerate special investigations in relation to pre-anaesthesia evaluation
7. Lignocaine hydrochloride
8. Reversal of anaesthesia
9. Immediate complications of spinal anaesthesia and treatment
10. Classification of Intravenous fluids

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

11. Bupivacaine Hydrochloride
12. Draw labeled diagram of Epidural space with its relations
13. Goals of oxygen therapy
14. Air ways-parts, features and methods of insertion
15. Physical properties of Ether
16. Classification of blood groups
17. Neostigmine
18. Enumerate emergency drugs on anaesthesia trolley with their indications
19. Pre-anaesthesia orders with its interpretation
20. Humidification-advantages

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B.SC. IN NEUROSCIENCE TECHNOLOGY -III SEMESTER
DECEMBER 2020

Time: 3 Hours Max. Marks: 60

BASIC OF NERVE CONDUCTIONS, ELECTROMYOGRAPHY AND EVOKED POTENTIALS

Q.P. Code:1926

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

Question Number **Marks**

LONG ESSAY QUESTIONS: **2 X 10 = 20**

1. Describe in detail principles of motor nerve conductions
2. Describe in detail how to perform auditory evoked potentials

SHORT ESSAY QUESTIONS: **5 X 5 = 25**

3. Repetitive nerve stimulation
4. Motor unit potential
5. Procedure for recording H-reflex
6. Electrodes used for nerve conduction study
7. Sensory nerve conduction of sural nerve

SHORT ANSWER QUESTIONS: **5 X 3 = 15**

8. Heart rate variability with deep breathing
9. Interference pattern in electromyography
10. P 100 in visual evoked potentials
11. Normal spontaneous activity in electromyography
12. Averaging in evoked potentials

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