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 (3rd Cycle) **Placed in 'A' Category by MoE (GoI)**

B.SC. MLT, RADIOGRAPHY, ANAESTHESIA, CARDIAC CARE, NEUROSCIENCE, PERFUSION, RENAL DIALYSIS TECHNOLOGY, OPTOMETRY, ENDOSCOPY, EMERGENCY MEDICINE AND CRITICAL CARE TECHNOLOGY-I SEMESTER-FEBRUARY 2024

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**

1. Describe the heart under the following headings.
   a) External features b) Blood supply c) Applied Anatomy

2. Name the parts of the CNC. Describe the supero-lateral surface of cerebrum under the following headings:
   a) Lobes b) Sulci & gyri c) Functional areas

3. Describe the Right lung under the following headings.
   a) Mediastinal Impressions. b) Bronchopulmonary Segments

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

4. Venous drainage of heart.
5. Classify the cartilaginous joints.
6. Write a note on pleuria and its applied anatomy.
7. Blood supply of spinal cord.
8. Skeletal framework of Nasal septum.
9. Pulmonary circulation.
10. Name the bones of appendicular skeleton.

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

11. Name the unpaired cartilages of larynx.
12. Name the parts of pharynx.
13. Name the parts of brainstem.
14. Name the parts of parietal pleura.
15. Name the branches of arch of aorta.

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B.SC. IN OPTOMETRY V SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

CONTACTS LENS SQUINT AND BINOCULAR VISION

Q.P. Code:0133

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 phoria and tropis.
2. Explain Maddox double rod test.
3. Enumerate the advantages if binocular vision.

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

4. Enumerate the indication and contra indications of contact lens uses.
5. Explain keratometric method of contact lens fitting.
6. Enumerate the optics contact lens.
7. Explain amblyopia.
8. What is Brucknere test?
9. Explain synergistic and antagonist muscle.

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

10. Bifocal contact lenses.
11. Enumerate contact lens option for keratoconus patient.
12. Enumerate the three complication of soft contact lens.
13. Advantages of contact lens over spectacles.
14. Water content of contact lens.

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B.SC. RENAL DIALYSIS TECHNOLOGY-V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASICS OF NEPHROLOGY

Q.P. Code:0122

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 renovascular hypertension? How to diagnose and treat it?
2. What is diabetic nephropathy? How to diagnose and treat it and write its complications.

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

3. What are renal complications during normal pregnancy?
4. What is non pharmological treatment of hypertension?
5. What are renal changes in pregnancy?
6. Write in brief about ADPKD.
7. What are complications of pre-existing kidney disease causes to pregnancy?

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

8. How do you diagnose renovascular hypertension?
9. What are non pharmological treatment to prevent development of hypertension?
10. Name cystic disease of kidney and write about ADPKD.
11. Name the complications during pregnancy and development of Acute kidney Injury.
12. Name the renal disease in cancer patients.

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

B.SC. IN MEDICAL LABORATORY TECHNOLOGY-V SEMESTER
FEBRUARY 2024

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 the principle, procedure and application of polymerase chain reaction in clinical and research laboratory. (2+3+5)
2. Describe in detail the role of enzymes assays in liver diseases.
3. Discuss various functions of thyroid gland. List the thyroid function tests. Add a note of Radio Iodine uptake test. (3+3+4)

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

4. Describe the homeostasis of calcium in the body. List two methods used for estimation of serum calcium.
5. Mention the method used for estimation of blood urea in clinical laboratory. Mention the normal range of blood urea. List three causes for uremia.
6. Discuss the advantages and disadvantages of genetic engineering.
7. Enumerate the radio isotope techniques used in clinical and research laboratory. Add a note on proper handling of radioisotopes.
8. Discuss the formation of renal calculi. Listthe test done on a renal calculus.
9. Describe the instrumentation of a blood gas analyzer. List the parameters read by it.

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

10. Enumerate the **three** applications of restriction fragment length polymorphism.
11. Mention the method used for testing following analytes in clinical laboratory .
    i) Serum total Cholesterol .
    ii) Serum total Protein.
    iii) Serum Albumin.
12. Mention the enzymes elevated pancreatic disease.
13. Enumerate **three** uses of pH meter.
14. Mention three advantages of enzyme linked Immuno sorbent assay (ELISA).

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B.SC. IN RADIOGRAPHY-V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

IMAGING TECHNIQUE-USG

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. Discuss in detail ultrasound transducer.
2. Explain Doppler ultrasound.

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

3. Piezoelectric effect.
4. Ultrasound image quality.
5. Types of transducers.
6. Ultrasound guided biopsy.
7. Ultrasound artifacts.

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

8. F- form.
9. Clinical probes.
10. A-Mode.
11. Fresnel and fraunhofer zones.
12. Ultrasound transducer design.

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B.SC. IN ANESTHESIA TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED ANAESTHESIA TECHNOLOGY-I

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**

1. What are the main objective behind the pre-operative examination of a patient scheduled for surgery. Note on ASA (American Sonety of Anaesthesiologist)
2. What is massive blood transfusion. Mention complications.
3. Discuss basic monitoring required for a patient posted for emergency Laparoscopic appendicetomy. Write in detail about Pulse onimeter.

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

4. Write in detail about management of patient in Hypotension.
5. Post-operative Nausea and vomiting.
6. List of drug used for General Anaesthesia Intravenous dosage of all IV induction agents.
7. Discuss management of patient in casualty with Road Traffic Accident.
8. Explain oxygen delivery device used in recovery room.
9. List IV induction agent. Write in detail about Propofol.

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

10. Simple far Mark.
11. Preparation of OT for TAP Block. (Trans abdominal Plane Block)
12. Note on Aspiration Pneumonia.
13. Screening test for Blood transfusion.
14. Pain management in patient undergoing total knee replacement.

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B.SC. IN CARDIAC CARE TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

ELECTROCARDIOGRAPHY-II

Q.P. Code:1990

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 indications, contraindicators, interpretation and complications of TMT.
2. Discuss approach to a patient with wide complex tachycardia.
3. Describe indications, purpose, procedure and interpretation of cardiac monitoring.

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

4. ECG in WPW syndrome.
5. Describe different TMT Protocols.
6. Discuss Myocardial perfusion scan.
7. Discuss how to set up Intensive coronary care unit.
8. Discuss Artificial Respiration.
9. ECG in Heart Blocks.

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

10. Holter Monitoring.
11. Normal ECG and its waveforms.
12. Principle of cardiac defibrillator.
13. Drugs used during cardiac resuscitation.
14. ECG in Ventricular premature complex.

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B.SC. IN PERFUSION TECHNOLOGY-V SEMESTER
FEBRUARY 2024

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. Compare different venous cannulae used in single stage and double stage venous drainage.

2. What are the separation problems associated with CPB? How will you manage it?

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

3. How will you select aortic cannula with respect to i) size ii) Tip.

4. Non cardioplegic methods for myocardial protection during cardiac surgery on CPB.

5. Complications of blood transfusion.

6. How will you minimise blood cell trauma on CPB?

7. Heparin.

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

8. Dispersible aortic cannula.
9. Complications of root cardioplegia needle.
10. Safe act criterias for cannulation OFF PUMP CABG, ON PUMP CABG.
11. High arterial line pressure.
12. Surface cooling by ice: Advantages and disadvantages.

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B.SC. IN NEUROSCIENCE TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED NEUROLOGY-I

Q.P. Code:1995

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 classification of epilepsies.
2. Discuss the causes, clinical features of cerebral infarction.
3. Describe the clinical features and investigations for viral encephalitis.

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

4. Diagnosis of Myasthenia gravis.
5. Spinal muscular atrophy.
6. Sleep disorders.
7. Immune mediated encephalitis.
8. Temporal lobe epilepsy.
9. Status epilepticus.

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

10. Brain death.
11. West syndrome.
12. Myoclonus.
13. Carbamazepine.
14. Levetiracetam.

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B.SC. IN CRITICAL CARE TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

CLINICAL INTENSIVE CARE TECHNOLOGY

Q.P. Code:1140

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 various parameters to be monitored in a patient on mechanical ventilation.
2. Mention indications, explain the process for ICD insertion.
3. Mention various airway secretion clearance techniques , explain advantages of closed suctioning system over open suctioning system.

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

4. Various sites for ABG sampling with advantages and disadvantages if any.
5. Define Ph Explain ABG parameters in metabolic acidosis with examples of condition causing metabolic acidosis.
6. Explain active humidification.
7. Explain inspiratory hold, expiratory hold and their clinical significance.
8. Expand CPAP , BiPAP and discuss its clinical applications
9. Advantages of closed suctioning system and explanation for the same.

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

10. Mention few causes for increased plateau pressure.
11. Mention parameter to monitor post extubation.
12. Mention various methods of confirming endotracheal tube position.
13. Difference between nebulization and MDI.
14. Draw a neat labeled diagram of nasal airway.

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FIRST SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

INTRODUCTION TO FOOD SCIENCE

Q.P. Code: 0136

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 methods of cooking in detail.
2. Explain the process of pasteurization.
3. Comment on classification of vegetables.

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

4. Discuss Nutritional classification of foods.
5. Comment on nutritional status.
6. Describe Enrichment and fortification of cereals and flours.
7. Explain process of germination of pulses.
8. Comment on changes during ripening of fruits.
9. Describe Composition and Nutritive value of egg.
10. Discuss factors affecting crystallization of sugar.
11. What is hydrogenation of fats?
12. What is balanced diet?

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

13. Food.
14. Nutrients.
15. Malnutrition.
16. Appetite.
17. Satiety.
18. Health.
19. Malting.
20. Enzymatic Browning.
21. Medicinal value of spices.
22. Cheese processing.

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THIRD SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

ASSESSMENT OF NUTRITIONAL STATUS

Q.P. Code: 1120

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. State the objectives of assessment of nutritional status in community and clinic.
2. Define anthropometry. Write a note on antropometric assessment in nutrition.
3. Write a note on nutritional needs during infancy.

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

4. Elaborate the three-way process of communication with an example.
5. Write a short note on 24 hours recall method. Mention its disadvantages.
6. Mention the nutritional clinical signs seen in following conditions.
   - Vitamin B deficiency.
   - Iron deficiency.
7. What are the steps involved in measuring skin fold thickness. Write its significance.
8. What is the significance of BMI?
   Write WHO BMI classification.
9. Write a note on growth monitoring.
10. Write a note on PEM.
11. Write a note on social marketing in nutrition communication.
12. Write a detailed note on assessment of weight in pediatric population.

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

13. What is biophysical test in nutritional assessment.
14. What is nutritional surveillance.
15. A female baby with birth weight of 2.5 Kg weighed 4 Kg at 6 months of age. Comment on her nutritional status.
16. Define stunting.
17. Define wasting in nutrition.
18. Mention the name of the equipment used to record height and weight in infants.
19. What is nutritional screening?
20. Mention the disadvantages of using the food frequency questionnaires.
21. What is social marketing in nutrition communication?
22. What is the significance of assessing head circumference in children.

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FIFTH SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

COMMUNITY NUTRITION

Q.P. Code: 1137

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 in detail about micronutrient deficiencies.
2. Write in detail effects of smoking on health.
3. Explain in detail Vitamin A deficiency.

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

4. Write about Iodine deficiency disorder.
5. Explain Iron deficiency anaemia.
6. Write in detail about supplementary feeding programmes.
7. Brief note on strategies to combat national nutrition problems.
8. Explain mass communication media used in nutrition education.
9. Explain the role of nutrition education programs in eradication of malnutrition.
10. What is Aids? Explain about AIDS control program.
11. Explain the role of dietary diversification combating public nutrition problem.
12. Write in detail about Nutrition Surveillance System.

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

13. Define community nutrition.
14. What is Fluorosis?
15. Mention four Vitamin A deficiency disorder.
16. What is anemia?
17. List some supplementary feeding programmes.
18. Name the six common vaccine preventable disease.
19. Define immunization.
20. What are the signs and symptoms of zinc deficiency.
21. Write nutrition monitoring.
22. What is natural disaster?

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FIRST SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

BASIC SCIENCES-I
(Anatomy and Physiology)

Q.P. Code:1851

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

Question Number **Marks**

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

1. Define cell. Write a note on cell structure. Write in detail about the features of lysosomes with a neat labeled diagram.
2. Classify white blood cells based on their morphology. Describe their features and functions.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Write in detail about cytoskeleton.
4. Explain DNA structure with a neat labeled diagram.
5. Write a short note on blood pressure.
6. What are the functions of saliva and liver.
7. Write a short note on oesophagus.
8. Write in brief about innate immunity.
9. List the hormones of adrenal cortex and write its functions in detail.
10. Write a note on coverings of the brain.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Enumerate the functions of rough and smooth endoplasmic reticulum
12. Define Anemia. Mention its causes.
13. Describe pharynx with a labelled diagram
14. Enumerate organs of GIT
15. Name any 4 endocrine glands
16. List the parts of the lymphatic system
17. Mention any four parts of the central nervous system.
18. List the functions of parathormone
19. Enlist the functions of ovaries
20. Define anterior and posterior position

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THIRD SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

FUNDAMENTALS OF DATA PROCESSING AND ANALYSIS-BASIC BIO STATISTICS

Q.P. Code:1859

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

Question Number **Marks**

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

1. Discuss the measures of central tendancy.
2. Explain different types of graphs used to present qualitative data.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. What is standard deviation? Explain the steps involved in standard deviation.
4. Explain Range as a measure of dispersion. Write its merits and demerits.
5. Explain scales of measurements.
6. What is data? Classify type of data.
7. What are the sources of collection of primary data?
8. What is tabulation? Explain briefly different tables used in presentation of data.
9. What is variable? Explain types of variables.
10. What is geometric mean? Write its merits and demerits.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Define Biostatistics.
12. What are types of skewness?
13. What are types of kurtosis?
14. Write any four methods of graphical presentation of data.
15. What is numerical variable? Give examples.
16. What is coefficient of range?
17. What is qualitative data? Give example.
18. What are the uses of standard deviation?
19. What is mutually exclusion event?
20. What is discrete variable? Give example.

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FIFTH SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

NATIONAL HEALTH PROGRAMS AND HEALTH LAWS

Q.P. Code:1865

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

Question Number **Marks**

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

1. What are the diseases covered under National vector Borne disease control program? Describe programme strategy for one of them.
2. Explain about Census act 1948.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. National health policy – 1983.
4. Juvenile Justice Act.
5. The cigarettes and other tobacco products (prohibition of advertisement and regulation of trude and commerse, production supply and distribution) act 2003.
6. Sentinel surveillance for HIV in India.
7. The protection of women from domestic violence act 2005.
8. Write about ASHA and role in reducing maternal death.
9. National immunization programme.
10. The consumer protection act 1986.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Anti-malaria month compaign.
12. Write any **two** activities carried out under disability prevention and medical rehabilitation (DPMR) in leprosy.
13. Write any two components of DOTS strategy.
14. Write any **two** personal protective measures in integrated vector management.
15. Goals of national AIDS control program.
16. What is pulse polio programme.
17. Write any **two** vaccines given at 10 weeks after birth.
18. Write any **two** functions of ASHA in relation to adolescent girls.
19. What are objectives of RNTCP?
20. Vandemataram scheme.

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SEVENTH SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

RESEARCH METHODOLOGY AND BIOETHICS

Q.P. Code:1870

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

Question Number **Marks**

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

1. Classify epidemiological study designs. Write in detail about cross-sectional study design.
2. Write in detail about ICMR guidelines for Bio medical research.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Describe in detail the case-control study.
4. Write about Belmont report.
5. Write in brief about the purpose and scope of bioethics in the field of medical research.
6. What are the difference between qualitative and quantitative studies?
7. Explain in brief about Types of variables.
8. What are advantage and disadvantages of cohort study.
9. Write about responsibilities of sponsors.
10. Explain about purposive and quota sampling in qualitative study.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Define volunteerism.
12. Mention any four vulnerable groups.
13. Define ethics.
14. Mention 2 advantages of case control study.
15. Define nested case control study.
16. Name any two experimental study designs.
17. When one should can ask for waiver of consent.
18. Define bias.
19. What is the full form of IEC.
20. How to frame research objectives?

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B.SC. IN MEDICAL LABORATORY TECHNOLOGY

III SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BIOCHEMISTRY-III

Q.P. Code:1911

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 the dynamics of blood glucose homeostasis. Explain the role of hormones in achieving this. (5+5)
2. Explain the degradation pathway of catabolism of heme. Add a note on jaundice. (6+4)
3. Name the ketone bodies. Discuss Ketogenesis. Describe the role of ketone bodies in starvation and in severe uncontrolled Diabetes mellitus. (1+6+3)

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

4. Define enzymes. Describe at least four diagnostic enzymes with their significance. (1+4)
5. What are plasma proteins? Enumerate major plasma proteins with their functions. (1+4)
6. Explain the principle and applications of chromatography. (2+3)
7. What are lipoproteins? Classify them and mention their functions. (1+2+2)
8. Define precipitation. Describe atleast three ways of precipitation of proteins. (2+3)
9. Explain the significance of HMP shunt pathway.

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

10. What is Galactosemia. Name the enzyme defect and its clinical presentations.
11. Mention the molecular defect in Sickle cell haemoglobin and its clinical significance.
12. Explain the Carnitine shuttle.
13. Define OGTT. Mention the indications for OGTT. (1+2)
14. Mention the types of electrophoresis.

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B.SC. IN RADIOGRAPHY-III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

RADIATION PHYSICS PART-I

Q.P. Code:1914

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 in detail about the radiation measuring instruments.
2. Discuss in detail about the scintillation detector with diagram.

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

3. Compton scattering.
4. ICRP regulation.
5. Properties of X-rays.
6. Explain about the collimator.
7. Deterministic and stochastic effect.

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

8. Dose response curve.
9. Dose limits.
10. ALARA principle.
11. Work load, use factor and occupancy factor.
12. Film badge.

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B.SC. IN ANESTHESIA TECHNOLOGY/PERFUSION TECHNOLOGY/CARDIAC CARE TECHNOLOGY -III SEMESTER FEBRUARY 2024

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. Classify Anticholinergics. Write uses and adverse effects of Atropine substitutes. Add a note on Belladona poisoning.
2. Classify router of drug administration with suitable examples. Write merits and demerits of intravenous route and sublingual route.
3. Classify NSAIDS. Explain the mechanism of action, therapeutic uses and adverse effects of NSAIDS in general.

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

4. Enumerate beta blockers and write their therapeutic uses.
5. Enumerate oral hypoglycemic agents and write mechanism of action of Metformin.
6. Enumerate and write therapeutic uses of antihistaminics.
7. Write therapeutic uses and adverse effects of Glucocorticoids.
8. Drug Antagonism.
9. Enumerate centrally acting skeletal muscle relaxants. Write their therapeutic uses.
10. Classify antithyroid drugs. Write their therapeutic uses.

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

11. Enumerate three anticholinesterases. Write three uses.
12. Define Teratogenicity. Write three examples.
13. Transdermal Patch.
14. Name three Anabolic steroids and write three uses.
15. Name three Antithyroid drugs and write three uses.
16. Enumerate three routes of drug excretion with suitable examples.
17. Write uses and adverse effects of Morphine.
18. Define bioavailability. Write factors affecting bioavailability.
19. Enumerate six factors modifying drug action.
20. Name three mechanisms of drug action.

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B.SC. IN NEUROSCIENCE TECHNOLOGY -III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASIC NEUROSCIENCES-I

Q.P. Code:1924

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 anatomy and functions of basal ganglia.
2. Discuss the function of frontal, temporal and parietal lobes.
3. Discuss the anatomy motor pathway.

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

4. Function of cerebellum.
5. Sympathetic nervous system.
6. Action potential.
7. Non rapid eye movement sleep.
8. Resting membrane potential.
9. Mid brain.

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

10. Acetyl choline.
11. Sodium channels.
12. Dopamine.
13. Miniature end plate potential.
14. Sleep spindles.

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B.SC. IN OPTOMETRY III SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

OCULAR ANATOMY AND VISUAL OPTICS

Q.P. Code:0127

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 iris and label the parts. Write a note on pupillary reaction.
2. Draw a cross section of the crystalline lens and label the parts. Add anote on physiological function.
3. Draw a neat diagram of cross section of cornea. Add a note on its corneal transparency.

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

4. With a neat diagram of schematic eye. Enumerate the various types of refractive errors.
5. Enumerate the various methods of recording of field of vision.
6. Explain the principle of Snellens chart.
7. Worth's Four Dot Test.
8. A scan biometry.
9. Dynamic vs static retinoscopy.

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

10. History taking of the patient.
11. Correction of Astigmatism.
12. Tear break up time.
13. Placidio's disc.
14. Astigmatic fan.

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B.SC. IN CRITICAL CARE TECHNOLOGY-III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED ANATOMY AND PHYSIOLOGY RELATED TO CRITICAL CARE

Q.P. Code:1114

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 brief endotracheal intubation, procedure, indications, complications and Endotracheal Tube care.
2. Explain lung volumes and capacities.
3. Discuss cardiac output and factors affecting cardiac output.

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

4. Discuss in short postural drainage of lung.
5. Discuss intercostal drainage procedure.
6. Indications for pericardiocentesis.
7. Explain the procedure of central venous catheter insertation.
8. Normal blood pressure and its determinants.
9. Functional Residual capacity and clinical significance.

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

10. Indications for tracheostomy.
11. Complications of arterial canulation.
12. Name various sites for arterial catheter insertion.
13. Indications for non invasive ventilation.
14. Thracheostomy care.

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B.SC. EMERGENCY MEDICINE -III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED ANATOMY AND PHYSIOLOGY RELATED TO EMERGENCY CARE

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. Explain lung volumes and capacities.
2. Discuss in brief the procedure of tracheostomy, indications, complications of tracheostomy, and tracheostomy care.
3. Discuss systolic,diastolic, pulse pressure, and mean artereal pressure and factors affecting the blood pressure.

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

4. Explain complications of central venous catheter insertion.
5. Glasgow coma scale and its implications.
6. Indications and complications of arterial canulation.
7. Lung compliance and types.
8. Central venous catheter insertion.
9. Normal blood pressure and its determinants.

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

10. Peak Airway pressure.
11. Stroke volume.
12. Needle thoracostomy.
13. Indications for pericardiocentesis.
14. Indications for endotracheal intubation.

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B.SC. RENAL DIALYSIS TECHNOLOGY-III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

CONCEPTS OF RENAL DISEASE AND ITS MANAGEMENT

Q.P. Code:1309

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 AKI, Discuss types, Diagnosis, urinary findings and treatment of AKI.
2. Define obstructive uropathy. Mention various causes, clinical features and management of obstructive uropathy.
3. Define nephrotic syndrome, mention causes, discuss clinical features and treatment.

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

4. Write about the signs and symptoms, diagnosis and treatment of urinary tract infections.
5. Define nephritic syndrome and discuss treatment.
6. What are Asymptomatic urinary abnormalities?
7. How will you give dietary counseling to a CKD patient not on dialysis and to a CKD patient on hemodialysis?
8. Management of renal stone.
9. Define chronic kidney disease and enumerate the stages

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

10. Drugs causing AKI
11. WBC cast/
12. Common aetiologies of UTI.
13. Stages of CKD.
14. Common aetiology of nephrotic syndrome.

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B.SC. MLT, RADIOGRAPHY, ANAESTHESIA, CARDIAC CARE, NEUROSCIENCE, PERFUSION, RENAL DIALYSIS TECHNOLOGY, OPTOMETRY, ENDOSCOPY, EMERGENCY MEDICINEAND CRITICAL CARE TECHNOLOGY
I SEMESTER-FEBRUARY 2024

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**

1. Classify leucocytes. Describe the structure and functions of each type of leucocytes. (2+5+3)
2. Name the ascending tract with help of neat and labeled diagram trace the origin, course and termination of pair pathway. (3+7)

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

3. Define Homeostasis. Explain positive feedback mechanism with one example.
4. Describe excitation contraction coupling of skeletal muscle.
5. Explain the functions of middle ear.

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

6. Define phagocylosis and pinocytosis.
7. Name the muscle proteins of muscle contraction.
8. Draw a neat labeled diagram of neuron.
9. Name the plasma proteins. Write any two functions.
10. Name the primary taste sensations.

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. With a neat labeled diagram explain the pH meter. Add a note on its principle and applications. (5+5)
2. Describe the various laboratory safety measures to be followed in a laboratory. Enumerate the First aid measures to be followed in case of an incident in the laboratory. (7+3)

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

3. Define phospholipids. Classify them with suitable examples. Add anote on the functions of various phospholipids. (1+2+2)
4. Discuss the Watson and Crick Model of DNA with a neat labeled diagram. (3+2)
5. Classify Proteins with suitable examples based on their composition and solubility. Add a note on their biochemical importance.

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

6. What are fatty acids? Classify them based on the nature of Hydrocarbon chain with suitable examples.
7. Discuss the functions of three major of RNA present in eukaryotic cells.
8. Define : Atomic weight, Molecular Weight, Valency.
9. Define and classify Polysaccharides with suitable exaples.
10. Enumerate any THREE biological active peptides along with their clinical significance.

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B.SC. IN OPTOMETRY V SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

OCULAR DISEASES + EYE AND SYSTEMIC DISEASES

Q.P. Code:0134

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 Staphyloma. Enumerate the etiological causes, signs and symptoms of Staphyloma.

2. Draw a neat diagram of Cross section of the upper eye-lid and label the parts. Add a note on Ptosis.

3. Draw a neat diagram of Cross section of the Human Crystalline lens and label the parts. Add a note on etiological causes of cataract.

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

4. Enumerate the clinical signs of Irido-Cyclitis.

5. Classify Glaucoma.

6. Ocular manifestation of contusion injury (anterior segment only).

7. Enumerate the causes of Leucoria.

8. Clinical signs of Trichiasis.

9. Ocular manifestation of Vitamin A deficiency.

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

10. Classify Retinal – detachment.
11. Anomalies of Pupillary reaction.
12. Enumerate the causes of Blepharospasm.
13. Classify Pterygium.
14. Causes of colour Haloes.

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B.SC. RENAL DIALYSIS TECHNOLOGY-V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED DIALYSIS TECHNOLOGY-I

Q.P. Code:0123

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. Write about dialysis machine and its over all parts & functions.

2. Write about vascular access for short term and long term dialysis.

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

3. What is PET test? When to do this test while patient is on peritoneal dialysis?
4. Write brief history about haemodialysis.
5. What are non-renal failure indications for haemodialysis?
6. What are complications of vascular access (AVF) ?
7. Mention types of peritoneal dialysis catheter.

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

8. Write in brief mechanism of peritoneal dialysis.
9. Mention types of dialyser membrane and their differences.
10. What is dialysate in haemodialysis? Write its composition.
11. What are emergency indications of haemodialysis?
12. What are long term complications of haemodialysis?

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B.Sc. IN MEDICAL LABORATORY TECHNOLOGY–V SEMESTER
FEBRUARY 2024

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. Discuss the collection, preparation and staining of CSF for cytological examination. Add a note on normal cytology of CSF
2. Discuss the collection and preparation and processing of sample from respiratory tract. Add a note on cytological features of bronchogenic carcinoma.
3. Describe principle, reagents preparation and staining procedure of Papanicolaou stain.

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

4. Discuss principle, equipment and procedure of cytospin
5. Describe collection and preparation of pleural fluid for cytological examination.
6. Discuss cytology of squamous cell carcinoma of cervix
7. Discuss advantages and disadvantages of FNAC
8. Discuss preparation and staining procedure of MGG stain
9. Describe the types of microscope and their uses

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

10. Discuss maturation index.
11. Describe mesothelial cell.
12. Describe Pap smear findings in Trichomonas Vaginalis infection with a neat labelled diagram.
13. Enumerate the cells in cytology of gastrointestinal tract.
14. Describe normal cytology of urinary tract.

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B.SC. IN RADIOGRAPHY-V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

IMAGING TECHNIQUE-CT

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. Discuss in detail about the generation of CT scanner.
2. Write a note on CT angiography and discuss about its advantages and disadvantages.

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

3. Write briefly about scanning principle of computed tomography and data acquisition.
4. Write a note on CT fluoroscopy.
5. Explain CT detectors, CT number, window level and window width.
6. Write a note on equipment's for computed tomography.
7. Explain in brief the artifacts of computed tomography.

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

8. Window level and window width.
9. Image reconstruction.
10. Second generation scanner.
11. Pixel and voxel in computed tomography.
12. Contrast media used in computed tomography.

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B.SC. IN ANESTHESIA TECHNOLOGY-V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED ANAESTHESIA TECHNOLOGY-II

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**

1. Explain preparation and difficulties for remote location anaesthesia.
2. Write in detail about preparation of OT for upper limb block under ultrasound guided.
3. Discuss various type of endotracheal tube with the help of diagram.

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

4. Airway Hazard in Laser surgery and its management.
5. Post Anaesthesia care unit.
6. Preparation of OT for fibroptic bronchoscopy.
7. Most common postoperative problems in outpatient anaesthesia practice.
8. Advantage and disadvantage of simple oxygen mask.
9. Difference between colloids and crystcolloids.

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

10. Discharge criteria.
11. Ringer Lactate.
12. Monitored Anaesthesia Care.
13. List blocks - upper limb and lower limb.
14. Heimlich manoeuvres.

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B.SC. IN CARDIAC CARE TECHNOLOGY -V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

ECHOCARDIOGRAPHY

Q.P. Code:1991

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 a note on stress echo principle, procedure, interpretation and clinical applications.
2. Discuss echo in aortic valve diseases.
3. Describe the indications, views and contraindications of Transesophageal echocardiography (TEE). Add a note on its complications.

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

4. Write a note on cardiac masses.
5. Utility of 2D Echo in mitral stenosis before PTMC.
6. M-mode echo of pulmonary valve in pulmonary stenosis.
7. Advantages and uses of 3D Echo.
8. Foetal echocardiography.
9. Discuss echo in Restrictive cardiomyopathy.

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

10. Echo in Acute pericarditis.
11. Name contrast agents used for stress echocardiography.
12. Speckle tracking echocardiography.
13. Echo in Ebstein's anomaly.
14. Echo in LV aneurysm.

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B.SC. IN PERFUSION TECHNOLOGY -V SEMESTER

FEBRUARY 2024

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. Classify ECMO. Write an essay on use of VA ECMO.
2. Impellar and its comparision with left ventricular assist devices.

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

3. Indications of IABP.
4. Monitoring of anticoagulation on ECMO.
5. What are the different triggers can be used in IABP?
6. How will monitor exact location of IABP?.
7. Compare central vs peripheral cannulation in ECMO.

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

8. Monitoring required in use of endoaortic cross clamp.
9. Draw an arterial trace with respect to IABP.
10. Blood pump in ECMO.
11. Alternative to Helium in IABP.
12. IABP and peripheral vascular disease.

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B.SC. IN NEUROSCIENCE TECHNOLOGY –V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED TECHNOLOGY-V ELECTROENCEPHALOGRAPHY

Q.P. Code:1996

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 EEG findings non-rapid eye movement (NREM) sleep.
2. Describe the EEG findings in focal epilepsies.
3. Polysomnography.

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

4. Video EEG monitoring.
5. What the EEG changes due to medications?
6. Applications of magnetoencephalography.
7. Long term EEG monitoring.
8. EEG findings in head injury.
9. What are the EEG changes during brain death?

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

10. Vertex sharp waves.
11. K Complexes.
12. EEG changes in hepatic encephalopathy.
13. Theta activity.
14. Alpha activity.

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B.SC. IN CRITICAL CARE TECHNOLOGY -V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED INTENSIVE CARE TECHNOLOGY-I

Q.P. Code:1141

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 procedure, indications, complications and post procedure care of peripheral vein catheter insertion.

2. Mention differences between electrical cardioversion and defibrillation and explain the procedure of electrical cardioversion.

3. Explain basic process involved in image formation via ultrasonography.

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

4. Explain procedure of pericardiocentesis.
5. Explain uses of infusion devices and mention few drugs which are administered with infusion devices.
6. Explain zeroing and caliberation of pressure transducer.
7. Explain the term dampening and under dampening.
8. short essay on noradrenaline
9. Explain uses of crystalloids in ICU.

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

10. Central venous catheter care
11. Complications of central venous catheter .
12. Complications of vasopression.
13. B lines in lung ultrasonography.
14. Arterial catheter care.

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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Accredited A^{+} Grade by NAAC (3rd Cycle) **Placed in 'A' Category by MoE (GoI)**

FIRST SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

PRINCIPLES OF HUMAN NUTRITION

Q.P. Code: 0137

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. Write a note on Geographical Distribution of food grains in India.
2. Briefly explain components of energy expenditure.
3. Write sources of lipids. Discuss functions of lipids. Add a note on excess consumption of lipids.

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

4. Write a note on food changes and evolution of Human.
5. Discuss functions of proteins.
6. Write a note on deficiency manifestation of Iron and Iodine.
7. Explain functions and deficiency manifestation of Vitamin C.
8. Write a note on Pellagra.
9. Write a note on pernicious anemia.
10. Write a note on functions of water soluble Vitamins.
11. Write a note on stone age. (All three old, middle & new).
12. Write sources and functions of Pyridoxine.

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

13. Define BMR.
14. Define amino acids. Give examples.
15. Define Dietary fiber. Write any two uses.
16. Define malnutrition.
17. What is hypotonic contraction and expansion of ECF.
18. Explain functions of Calcium and Zinc.
19. Define Riboflavin deficiency.
20. Define woman references.
21. Classify Protein based on nutritional value with examples.
22. Define Beri Beri.

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THIRD SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

BASIC DIETETICS

Q.P. Code: 1121

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. Write MNT for TB and entric fever.
2. What are the basic principles involved while planning diets for patients recovery from fever.
3. What measures are taken to prevent anemia in India. .

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

4. Write a note on soft diet.
5. What is the role of dietician in hospital?
6. Explain the advantages of using normal diet as a basis for therapeutic diets.
7. Define obesity. What are the parameters used in the diagnosis of underweight.
8. Write a note on energy deficit calculation.
9. State the principles involved in dietary management of Tuberculosis pt.
10. Write the types of Anemia and causes for the same.
11. What is the difference between food allergy and food intolerance.
12. Explain the causes of Diarrhea in children.

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

13. Name different types of feeding methods.
14. Name 5 foods to be avoid in sodium restricted diet.
15. How do you calculate BMI?
16. How do you evaluate body fat?
17. What are the metabolic changes in fever?
18. What is food intolerance?
19. What is FODMAP?
20. What are the grades of obesity?
21. Write Harris Bendicts equation to calculate BMR in both male and female.
22. Write the four groups of dietary sources.

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FIFTH SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

FOOD PRESERVATION AND ADULTERATION

Q.P. Code: 1138

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. Define food preservation. Discuss the different methods of food preservation by example.
2. Explain the method of preservation by osmosis.
3. Explain in detail about Bureau of Indian standards.

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

4. Write the objectives and principles of food preservation.
5. Explain the method of preservation by high temperature.
6. Explain the method of preservation using high concentration of sugar.
7. Explain the effects of food adulteration on food quality and nutritive value of foods.
8. Explain the steps involved in pickle preparation.
9. Write the differences between Jam and Jellies.
10. Explain the procedure to detect vanaspati in ghee.
11. Explain in detail about BIS.
12. Explain in detail about AGMARK.

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

13. Define food preservation.
14. Define food spoilage.
15. Define syrups.
16. What is osmotic pressure?
17. Examples of chemical preservation.
18. What is canning preservation method?
19. List the types of spoilage in canned foods.
20. What is FSSAI?
21. What reagent is used to detect adulteration in edile oil?
22. What is metanil yellow?

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FIRST SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

INTRODUCTION TO HEALTH DISEASES

Q.P. Code:1852

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

Question Number Marks

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

1. Define Epidemiology. Write principles and uses of epidemiology.
2. Define Health. Enumerate the Indicators of Health. Describe in detail the morbidity Indicators.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Explain Reservoir of infection with example.
4. What are Social Determinants of health in relation to India?
5. Explain in brief about relative risk and attributable risk.
6. Discuss different modes of disease transmission.
7. How do you estimate the risks in epidemiology?
8. Write in brief about distribution of disease according to time and place.
9. Explain with an example web of causation.
10. Write in detail measuring tools in epidemiology with example.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Give 2 examples for tertiary prevention.
12. Enumerate different types of reservoirs.
13. Define Relative Risk.
14. Write aims of Epidemiology.
15. Explain Ratio with suitable example.
16. Define Epidemic, sporadic.
17. Expand PQLI and HDI.
18. Define Infant Mortality Rate.
19. What is standard of living?
20. Define Disease.

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THIRD SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

FUNDAMENTALS OF HEALTH EDUCATION AND COMMUNICATION

Q.P. Code:1860

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

Question Number **Marks**

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

1. Define communication. Write in detail the about the types of communication. Add a note on noise communication. (7+3)
2. Discuss behavioral change approach using Health Belief Model with an example.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Write in detail about need for health education in the primary health care systems.
4. Enumerate the group methods of health education and write in detail about group discussion.
5. Write about the preparation and use of posters in health education.
6. Write short note on communication with the communication triangle.
7. Write short note on individual approach in communication.
8. Write in detail any 5 advantages and 5 disadvantages of mass media.
9. What are flip charts? Write about the preparation, advantages and disadvantages of flip charts.
10. Write a note on chalk and talk method of health education.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. List the qualities of a good message.
12. List the components of communication process.
13. List the 7 area of responsibilities of health educator.
14. What are the 3 stages of motivation.
15. Write advantages and disadvantages of panel discussion.
16. Enlist the common broadcasting methods.
17. Give the 4 advantages and 4 disadvantages of radios.
18. List the characteristics of effective class room practices.
19. Define health promotion.
20. What do you mean by encoding and decoding of a message?

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FIFTH SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

MEDICAL ENTOMOLOGY AND OCCUPATIONAL HEALTH

Q.P. Code:1866

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

Question Number **Marks**

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

1. Factory act.
2. Define Rodentology. Write classification of medically important rodents. Explain in detail about anti-rodent measures.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Diagrammatic representation of life cycle of aeds mosquito.
4. Explain about accupational hazards.
5. Describe the steps for establishing mosquito surveillance system.
6. Define ergonomics. Principles of Ergonomics.
7. Write about the causes of industrial accidents.
8. What are the control measures of housefly?
9. Life cycle of lice.
10. Explain about the different types rodenticides.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. List the habitant of arthropods.
12. Write four differences between hard and soft ticks.
13. Define house index container index.
14. Define dust and write its classification.
15. Define Endophilic and Exophilic.
16. Diseases transmitted through sandfly.
17. Define Pneumoconiosis.
18. Write a medically important classification of Arthropod.
19. Define Arthropod and give examples.
20. Enlist occupational related diseases.

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B.Sc. IN MEDICAL LABORATORY TECHNOLOGY

III SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

HISTOPATHOLOGY

Q.P. Code:1912

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 Tissue Processing.
2. Discuss maintenance of records in Histopathology laboratory.
3. Discuss automation in Histopathology laboratory.

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

4. Discuss frozen section.
5. Discuss different types of Haematoxylins.
6. Discuss various embedding media.
7. Discuss aldehyde fixatives.
8. Decalcification of calcified tissues.
9. Discuss knife sharpening.

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

10. DPX.
11. Water bath.
12. Rotary microtome.
13. Xylene.
14. Name 3 types of microscopes and their uses.

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B.SC. IN RADIOGRAPHY-III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

RADIATION PHYSICS PART-II

Q.P. Code:1915

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. Write in detail about fluoroscopy.
2. Write a note on construction, working and methods of cooling anode in stationary X-ray tube.

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

3. Write a note on filter.
4. Explain principles of rectification, its wave form and half wave and full wave current/voltage wave form.
5. Grid controlled X-ray tube.
6. Write a note on generators.
7. Explain the following
   i) Magnification radiography.
   ii) Substraction radiography

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

8. Cones.
9. Filament circuit.
10. Cylinder.
11. Mass miniature radiography.
12. Current load and power loss.

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B.SC. IN ANESTHESIA TECHNOLOGY-III SEMESTER FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

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. Classification of supraglottic airway device Insertion technique, Indication and Contraindications.
2. Write component of High Pressure, Intermediate Pressure and low Pressure. List Safety features of Anaesthesia workstation.
3. Arrangement of anaesthesia workstation for General Anaesthesia.

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

4. With a labelled diagram explain components of circle system. Note on soda lime canister.
5. Difference between LMA and endotracheal tube.
6. List various types of vaporizer. Mention their filling and maintenance.
7. Pin Index.
8. Write a note on Jackson Rees system with a help of diagram.
9. Flow meter assembly.

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

10. AMBU bag.
11. Note on Magill system.
12. Nasopharyngeal airway.
13. I Gel.
14. Non Rebreathe valve.

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B.SC. IN CARDIAC CARE TECHNOLOGY -III SEMESTER FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

CARDIOLOGY

Q.P. Code:1922

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 detail about prevalence, pathogenesis, clinical significance of Atherosclerosis.
2. Pulmonary Hypertension : Definition, causes, diagnosis and treatment.
3. Heart failure causes types, clinical features and treatment.

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

4. Short note on Rheumatic fever.
5. Symptoms, clinical signs and causes of Pericarditis.
6. Chronic obstructive pulmonary disease.
7. Acute Renal failure.
8. Clinical signs, symptoms and treatment of heart failure.
9. 64 slice CT angiography.

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

10. Causes of Dilated Cardiomyopathy.
11. Central venous lines.
12. Indications of CT angiography.
13. Fluid Therapy.
14. Complications of coronary artery disease.

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B.SC. IN PERFUSION TECHNOLOGY -III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASICS OF PERFUSION TECHNOLOGY-I

Q.P. Code:1920

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. Draw a normal ECG trace and enumerate importance of each wave in ECG.
2. What information do you get from transthoracic ECHO?

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

3. Cardio-thoracic ratio.
4. Write a short note on cerebral angiography.
5. Write a short note on defibrillator and Fibrillator.
6. Importance of temperature probes in cardiac surgery.
7. Short essay on liver function tests and its relevance in relation with ACT.

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

8. X-ray findings of pneumothorax.
9. Limitations of coronary angiogram.
10. What are the indications of PET scan of myocardium.
11. Name any three renal function tests.
12. Pressure transducer.

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B.SC. IN NEUROSCIENCE TECHNOLOGY -III SEMESTER FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED TECHNOLOGY-I BASICS PRINCIPLES OF CLINICAL NEUROPHYSIOLOGY

Q.P. Code:1925

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 patient preparation for recording electroencephalography (EEG).
2. Describe the principle of analog to digital conversion.
3. Describe electrodes used in clinical neurophysiology.

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

4. High frequency filter.
5. Impedance.
6. Signal processing in clinical neurophysiology. (1+4)
7. Electrical ground.
8. Briefly describe methods of averaging.
9. Signal triggering.

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

10. Aliasing.
11. Band pass filter.
12. Differential amplifier.
13. Common mode rejection.
14. Methods of data storage in electroencephalograpy.

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B.SC. IN OPTOMETRY III SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

PHYSICAL OPTICS AND GEOMETRIC OPTICS

Q.P. Code:0128

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 prism dioptre and its uses in optometry.
2. Basic principles of laser its action and uses in ophthalmology.
3. Explain the principle of light properties.

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

4. Explain Huygeris Wave theory.
5. Explain ultra violate spectrum.
6. Explain spherical aberration.
7. Magnifying power of simple and compound micro scope.
8. Explain double refraction in crystal.
9. Explain total internal refraction of light.

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

10. Optics of concave lenses.
11. Dual nature of light.
12. Rectilinear propagation-phenomena.
13. Vertex distance.
14. Conditions of interference of light.

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B.SC. IN CRITICAL CARE TECHNOLOGY-III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED PHARMACOLOGY IN CRITICAL CARE

Q.P. Code:1115

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 routes of drug administration. Write the advantages and disadvantages of Intravenous route.
2. Enumerate antihypertension drugs. Explain the mechanism of action and adverse effects of captopril.
3. Classify antimicrobial drugs based on their mechanism of action. Discuss the basic concepts of Antimicrobial resistance.

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

4. Explain the mechanism of action and adverse effects of Aspirin.
5. Discuss the uses and adverse effects of neuromuscular blocking agents.
6. Explain the uses and adverse effects of cortieosteroids.
7. Enumerate bronchodilators. Discuss the management of status asthamaticus.
8. Discuss the various methods of dose calculation for special age groups with suitable examples.
9. Enumerate antiviral drugs. Write their uses and adverse effects.

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

10. Write three uses and adverse effect of atropine.
11. Name **three** vasodilation. Write their uses.
12. Write three advantages and three disadvantages of oral route.
13. Name **three** antiseptics. Write their mechanism of action.
14. Write the management of Morphine poisoning.

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B.SC. EMERGENCY MEDICINE -III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED PHARMACOLOGY IN EMERGENCY CARE

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. Classify antianginals drugs. Discuss the mechanism of action, uses and adverse effects of Nitrates. (3+2+3+2)

2. Classify sedatives and hypnotics. Explain the mechanism of action, uses and adverse effects of benzodiazepines. (3+2+3+2)

3. Enumerate β-Lactam antibiotics. Describe the mechanism of action, therapeutic uses and adverse effects of Penicillin G. (3+3+2+2)

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

4. Discuss Merits and demerits of intravenous route of drug administration.

5. Discuss the uses and adverse effects of beta adrenergic blockers.

6. Mention any four peripherally acting skeletal muscle relaxants. Mention the uses of peripherally acting skeletal muscle relaxants.

7. Write in brief about the various classes of bronchodilators used in bronchial asthma.

8. Mention the uses and adverse effects of opioid analgesics.

9. Enumerate the calcium channel blockers. Mention their advantages as antihypertensive drugs and also mention their adverse effects.

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

10. Explain the term drug synergism and its type with suitable examples.
11. Mention three uses of sympathomimetic drugs.
12. Mention three differences between first generation and second generation H1 receptor antagonists.
13. Name any three inotropic agents.
14. Name three oxidizing antiseptics.

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B.SC. RENAL DIALYSIS TECHNOLOGY-III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASICS IN RENAL DISEASE TECHNOLOGY

Q.P. Code:1310

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 definition of dialysis? discuss in detail Principles of dialysis and add note on Concept of clearance.
2. Write about pre, intra and post dialysis patient monitoring. Write notes on the dialysis machine alarms and their causes.
3. Mention the various modes of renal replacement therapy. Indications, advantages and disadvantages of each mode of renal replacement therapy.

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

4. Describe types of dialyser & membrane
5. Discuss dialysis reuse.
6. Causes of hypotension during HD
7. Write about depression in dialysis patients.
8. Causes of fever in a dialysis patient and management.
9. Dialyzer reactions.

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

10. Ultrapure water.
11. Write the advantages and disadvantages of Arterio venous fistula.
12. Care of permanent HD catheter.
13. Tests for dialyzer performance after reuse
14. Muscle cramps during hemodilaysis.

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B.SC. MLT, RADIOGRAPHY, ANAESTHESIA, CARDIAC CARE, NEUROSCIENCE, PERFUSION, RENAL DIALYSIS TECHNOLOGY, OPTOMETRY, ENDOSCOPY, EMERGENCY MEDICINE AND CRITICAL CARE TECHNOLOGY-I SEMESTER FEBRUARY 2024

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**

1. Discuss laboratory organization and safety measures in haematology Laboratory.
2. Discuss the procedure of WBC count.

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

3. PCV.
4. Describe the procedure for AEC.
5. Describe the Neutrophil. Mention FOUR causes of Neutrophila.

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

6. Define Landsteiner's Laws.
7. Preparation of wrights stain.
8. Name two RBS indices with its normal value.
9. Define thrombocytopenia. Mention normal platelet count.
10. Name anticoagulants used in hematological investigations.

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

Question Number **Marks**

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

1. Define and classify sterilization. Describe the operational principle of hot air ove and write its uses.
2. List different types of microscopes used in diagnostic laboratories. Discuss the operational principle and uses of Dark ground microscope.

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

3. Classify pathogenic micro-organisms.
4. Discuss the contributions of Robert Koch.
5. Describe the qualities of ideal disinfectant.

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

6. Define Antiseptics and give two examples.
7. Draw a labeled diagram of bacterial growth curve.
8. Enlist four methods of gene transfer in bacteria.
9. Enumerate four types of filters used in sterilization.
10. What is antiseptic? Give **two** examples.

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.

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

B.SC. IN OPTOMETRY V SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

OCULAR PATHOLOGY AND OCULAR MICROBIOLOGY

Q.P. Code:0135

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 the clinical symptoms and sign of Bacterial corneal ulcer. Add a note on Pathogenesis of corneal ulcer.
2. Enumerate the clinical symptoms and sign of Retino-blastoma. Add a note on histopathology of Retino-blastoma.
3. Enumerate the clinical signs and symptoms of complicated cataract. Add a note on pathogenesis.

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

4. Explain tumour differentiation.
5. Enumerate the various culture plates used in ophthalmology.
6. Enumerate the various ocular stains used in ophthalmology.
7. Classify malignant tumours of eye and enumerate the various rout of spread of malignant tumours.
8. Histopathology of ocular Mucormycosis.
9. Enumerate the parasitic infections of eye.

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

10. ELISA test.
11. Periphaeral smear in Anaemia.
12. Enumerate the viral infections of cornea.
13. KOH preparation.
14. Aetiological causes of Fungal Corneal Ulcer.

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B.SC. RENAL DIALYSIS TECHNOLOGY-V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED DIALYSIS TECHNOLOGY-II

Q.P. Code:0124

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 special situations while doing haemodialysis? Write in brief about HIV and dialysis.

2. Mention what are dialysis procedures? Write in brief about SLEED.

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

3. What are difficulties faced while doing dialysis in Children?

4. Role of haemodialysis in poisoning.

5. Write about dialysis and pregnancy?

6. Dialysis with HIV positive patient.

7. What are the complications in patient undergoing dialysis with advanced liver disease?

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

8. What is MARS? Write its indications.

9. What are the complications of Reuse of dialyser?

10. Name different modalities of peritoneal dialysis.

11. What is haemoperfusion? Write its indications.

12. How to reuse dialyser in maintenance haemodialysis?

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B.Sc. IN MEDICAL LABORATORY TECHNOLOGY–V SEMESTER
FEBRUARY 2024

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. Describe the morphology, life cycle of Ascaris species. Write a brief note on its laboratory diagnosis. (2+4+4)
2. Describe the morphology and pathogenesis of mucormycetes. Briefly explain their laboratory diagnosis. (3+2+5)
3. Discuss the life cycle and laboratory diagnosis of Entamoeba hystolytica. (15+5)

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

4. Discuss the laboratory diagnosis of Malaria.
5. Discuss the laboratory diagnosis of Round worm infection.
6. Describe the pathogenesis and laboratory diagnosis of cryptococcal infection.
7. List the stool concentration techniques. Add a note on salt floatation technique.
8. Describe the life cycle of Leishmania donovani.
9. Explain the etiology and laboratory diagnosis of Taenia capitis.

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

10. Write a brief note on germ tube test.
11. Name THREE subcutaneous fungal infections.
12. Draw a neat labelled diagram of trophozoite and cyst of Entamoeba histolytica.
13. Write fungal classification.
14. Name THREE important laboratory tests done for diagnosis of cryptoccal infections.

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

B.SC. IN RADIOGRAPHY-V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

IMAGING TECHNIQUE-MRI

Q.P. Code:1111

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. Briefly describe the term larmor frequency, T1 and T2 relaxation times. Explain the sequence of events in routine spin echo sequence.

2. Write briefly on magnets, shim coils in MRI scanning.

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

3. Write a note on MR spectroscopy.
4. Write about the three main types of MR angiography.
5. Enumerate various coils used in MRI. Describe any one in detail.
6. Inversion recovery sequence.
7. Describe two pulse sequence used in MRI.

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

8. K- space.
9. Spine echo pulse sequence.
10. Signal to noise ratio.
11. Name the contrast media used in MRI.
12. Super paramagnetic agent.

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Accredited A^{+} Grade by NAAC (3rd Cycle) **Placed in 'A' Category by MHRD (GoI)**

B.SC. IN ANESTHESIA TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED ANAESTHESIA TECHNOLOGY-III

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**

1. Explain Anaesthetic management of 3 year old patient posted foreign body bronchus.

2. List minimum mandatory monitoring during Anaesthesia. List various drugs used to decrease blood pressure- Explain one.

3. What is Open Heart Surgery. Discuss monitoring required for open heart surgery.

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

4. Total intravenous Anaesthesia.
5. Management of TURP syndrome.
6. Post-operative epidural analgesia and preparation of OT.
7. Indication and complication of Blood transfusion.
8. Checking of Anaesthesia workstation.
9. Preparation of OT for patient with IHD posted for umbilical hernia.

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

10. Airway assessment in obese patient.
11. Invasive blood pressure monitoring.
12. Ketamin Hydrochloride.
13. Dosage, indication, adverse effect of Dermetomide.
14. List oxygen therapy in recovery.

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B.SC. IN CARDIAC CARE TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

INTERVENTIONAL CARDIOLOGY

Q.P. Code:1112

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 indications & contraindications, procedure, materials used and complications for coronary angioplasty.
2. Describe indications & contraindications, procedure, materials used and complications for Ballon Mitral valvotomy.
3. Describe indications & contraindications, procedure, materials used and complications for Permanent Pacemaker implantation.

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

4. Interpretation of views and angles in coronary angiogram.
5. Discuss Coronary stents.
6. Discuss indications, contraindications and interpretation of cardiac MRI.
7. Write a note on OCT catheter.
8. ASD device closure.
9. Discuss BMV in pregnancy

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

10. Imaging techniques in Interventional cardiology.
11. Name the guide wires used in Cathlab.
12. Indications & contraindications of FFR.
13. Indications & contraindications of TAVR.
14. Mention materials used in coronary angiogram.

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B.SC. IN PERFUSION TECHNOLOGY -V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

MEDICINE RELEVANT TO PERFUSION TECHNOLOGY

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. Write an essay on non-cardiac complications of valvular heart diseases.
2. Compare obstructive and restrictive lung diseases.

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

3. Define aneurysm: Classify it and discuss its complications.
4. Name any three acyanotic congenital heart disease and its effects on lungs.
5. X-ray findings in mitral stenosis.
6. Role of dialysis and renal transplant in management of end stage renal disease.
7. Write a short note on bleeding disorders.

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

8. Name any three cyanotic congenital heart diseases.
9. Classify ventricular septal defects.
10. Aortic stenosis and its cardiac effects.
11. Macrocytic hypochromic anemia.
12. Synthetic polymers in biomedical use.

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B.SC. IN NEUROSCIENCE TECHNOLOGY –V SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED TECHNOLOGY-VI ELECTRONEUROMYOGRAPHY

Q.P. Code:1113

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 nerve conduction findings in demyelinating neuropathies.
2. Discuss the methodology of median nerve motor conduction studies.
3. What the physiological variables affecting nerve conduction studies?

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

4. Carpal tunnel syndrome.
5. H – reflex elicitation.
6. Blink reflex findings in Bell's palsy (facial nerve paralysis).
7. Blink reflex.
8. Indications for transcranial magnetic stimulation.
9. Sensory conductions in carpal tunnel syndrome.

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

10. Motor Conduction block.
11. Lateral cutaneous nerve of forearm conduction.
12. Uses of magnetic stimulation.
13. P 300.
14. Anodal block.

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B.SC. IN CRITICAL CARE TECHNOLOGY -V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED INTENSIVE CARE TECHNOLOGY-II

Q.P. Code:1142

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. Trouble shooting high peak airway pressure alarm.
2. Explain pressure control ventilation with pressure scalar, flow scalar and volume scalar.
3. Bedside PFT'S.

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

4. Explain procedure of SBT.
5. Explain indications and complications for tracheostomy.
6. Discuss few causes of low minute ventilation alarm.
7. Short essay on simple face mask
8. Explain in brief components of CPR
9. Explain few indications of incentive spirometry.

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

10. Chain of survival in BLS.
11. Negative inspiratory pressure.
12. Measures to reduce auto peep.
13. What is trigger in mechanical ventilation.
14. Indications of nasal intubation.

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FIRST SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

NUTRITIONAL BIOCHEMISTRY-I

Q.P. Code: 0138

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. Describe how glucose is metabolized to pyruvate in the body. Discuss the fate of pyruvate in erythrocytes. (8+2)
2. Name the Ketone bodies. Explain the Synthesis and Breakdown of ketone bodies in the body.
3. Explain the factors affecting enzyme activity with the help of graphical representation. (8+2)

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

4. Describe the Fluid mosaic model with the help of a diagram.
5. Define Isoenzymes. Discuss any one isoenzyme of diagnostic importance.
6. Outline the steps of glycogenolysis.
7. Define active transport. Explain the different types of active transport with examples.
8. Define mucopolysaccharides. Name any three and explain their biological significance.
9. Explain in detail the digestion and absorption of Lipids.
10. Explain competitive inhibition of enzymes and list two clinically useful competitive inhibitors.
11. Enumerate ketone bodies. Write a note on Ketogenesis and clinical significance of ketosis.
12. Explain Anaplerotic reactions Kreb's cycle.

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

13. Define Km value and mention its significance.
14. Define substrate level phosphorylation. Give examples.
15. Enumerate the functions and one disorder associated with lysosomes.
16. Name the enzyme defect in lactose intolerance and its clinical features.
17. Define essential fatty acids. Give examples.
18. Mention TWO metalloenzymes.
19. Explain the Carnitine shuttle.
20. Mention the functions of Ligand-gated channels and provide ONE example.
21. Discuss the diagnostic importance of glycated hemoglobin.
22. Mention the normal reference range of the following in the serum.
    a) HDL-C b) LDL-C

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THIRD SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

NUTRITION IN THE LIFECYCLE-II

Q.P. Code: 1122

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. What are the nutritional related problems of old age. Briefly explain preventive measures.
2. Write in detail about nutritional requirements of adolescents.
3. Write dietary guidelines to plan a diet for adult. Write a note on low coast balanced diet.

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

4. Write the specific nutritional requirements for children.
5. Write a note on degenerative diseases in old age people.
6. What are the psychological signs of Anorexia Nervosa and Balimia Nervosa.
7. Write about food requirements for adult.
8. Discuss role of physical activity in reducing risk of lifestyle disorder.
9. Write about process of ageing.
10. Define eating disorders. Write a note on dietary guidelines for adolescents.
11. Define characteristics of reference men and women.
12. What is obesity? Write etiology of obesity and briefly explain about principle of diet for obesity.

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

13. Define Osteoporosis. When world Osteoporosis day is celebrated?
14. Write advantages of consumption of Dietary fiber.
15. Write RDA of Iron for adolescent girl and adolescent bo.
16. List important steps to be taken to improve the nutritional status of adolescents.
17. Write additional requirements for adults.
18. Define anti-oxidants and write its sources.
19. What is lifestyle disorders? Give examples.
20. List specific nutritional requirements for old age.
21. Write the name of essential fatty acids.
22. Name important Nutritional programs for adolescents.

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FIFTH SEMESTER - B.Sc. NUTRITION AND DIETETICS DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

AYURVEDA CONCEPTS OF DIET

Q.P. Code: 1139

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. Explain the nirukti, guna and karma of pitta dosha in detail.
2. Explain the plalavarga of ahara and significance of each.
3. Explain Tri-Dosha, their interrelations and clinical importance?

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

4. Explain in detail the importance of Panchamahabhuta in Prakruti.
5. Write the guna and karma of vata dosha.
6. Write a short note on Vata Prakruti.
7. Write a short note on classification of food as per the classics.
8. Mention the pitta sthana and its types.
9. Write a short note on importance of food.
10. Explain and write the importance of Non-vegetarian food according to classics.
11. Explain in detail the functions of vata.
12. Discuss in brief about the concept of Wholesome diet.

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

13. Define Prakriti. Its classification and explain about pita prakriti.
14. Write the characterstics of Kapha Prakruti.
15. Brief about relation between prakriti and agni.
16. Write about the Katu rasa and its effect.
17. Explain ekadhatu poshana nyaya and its applied physiology.
18. Short note on vegetarian food as per classics.
19. Write about Jala mahabhuta and its importance.
20. What is nidra and classify nidra according tocharaka and write its importance.
21. Write the classification of food according to chemical components.
22. Explain proerythroblast and mature erythrocyte stage of erythropoiesis.

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FIRST SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

SOCIAL SCIENCE

Q.P. Code:1853

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

Question Number **Marks**

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

1. Explain in detail about sources of Demographic Data.
2. Define Behaviour and mention the role of behaviour in prevention of diseases.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Explain in brief about the importance of demography in public health.
4. Explain about the composition of the population.
5. Discuss in brief about the National family health survey.
6. Define demography and explain in brief demographic cycle
7. Discuss in short about the role of family and cultural factors in health and diseases.
8. Explain in detail about Community and Society.
9. What is the role of family in Health and Diseases?
10. Write about cognitive and affective domain in behavioral concept.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Define joint family.
12. Enlist the Types families.
13. Define Socio-Economic Status .
14. Mention types of family.
15. Define literacy rate.
16. Define standard of living.
17. Mention any two social problems.
18. Define community.
19. Mention types of population pyramid
20. Define fertility.

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THIRD SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

RURAL, URBAN & TRIBAL HEALTH

Q.P. Code: 1861

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

Question Number **Marks**

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

1. What is urbanization? Discuss different health problems of urbanization.
2. Explain in detail NRHM.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. What is kinship? Write types of kinship in Indian tribes.
4. Write the staffing pattern of PHC according to Indian Public Health Standards.
5. Explain the concept of micro finance in rural development.
6. What are the roles responsibilities of ASHA?
7. Briefly explain Janani Surksha Yojana (JSY).
8. What are the adolescent health problems?
9. What are the health problems faced by urban slum people of India?
10. What are the causes of urbanization?

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Write classification of tribes based on geographical location.
12. What is population covered for PHC, sub-centre, CHC and anganwadi in hilly areas.
13. What is urban area?
14. Write any four non-communicable diseases of urban area.
15. What is Self Help group?
16. Write the stages of adolescence.
17. What is clan?
18. Write any four problems of urban slums.
19. Name any four tribes in India.
20. Name the organizations involved in youth development.

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FIFTH SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

BASICS OF HEALTH PLANNING & MANAGEMENT & INTRODUCTION TO ORGANIZATIONAL DEVELOPMENT

Q.P. Code:1867

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

Question Number **Marks**

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

1. Describe the various types of pneumoconiosis and their health effects.
2. Discuss the characteristics of organization development. Add a note on its foundation.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Discuss the scope, administration and finance of ESI act 1948.
4. Write in brief about scope of occupational health.
5. Life cycle of Mosquito.
6. Principles of occupational health and safety.
7. Rodenticides and their usability.
8. Farmer's lung.
9. Importance of medical entomology in public health.
10. Periodical examination.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Define occupational health.
12. Name any two diseases transmitted by arthropod through mechanical transmission.
13. Name any two non-dipterous insects.
14. Biological control of arthropod borne diseases.
15. Name any four diseases transmitted by houseflies.
16. Name any two measures for control of lice.
17. Name any two measures for protection against mosquito bite.
18. Name any two types of fleas.
19. Name any two disease transmitted by soft ticks.
20. Classification of rodents.

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KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH, BELAGAVI.
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B.Sc. IN MEDICAL LABORATORY TECHNOLOGY
III SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BACTERIOLOGY

Q.P. Code:1913

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. Describe the morphology and pathogenesis of Pneumococci. Add a note on laboratory diagnosis of pneumonia. (2+3+5)
2. Define hospital infections. List the sources and types of hospital infections. Write in brief about the role of microbiologist in hospital infection control. (2+4+4)
3. Enumerate the bacteria causing diarrhoea. List various types of E-coli. Add a note on laboratory diagnosis of E-coli diarrhoea. (2+2+6)

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

4. Describe the laboratory diagnosis of pulmonary tuberculosis.
5. Write the differences between bacillary and amebic dysentery.
6. Write in brief about the pathogenesis and laboratory diagnosis of Gas gangrene.
7. Discuss the laboratory diagnosis of Rheumatic fever.
8. Describe the aetiology and laboratory diagnosis of urinary tract infections.
9. List the diseases caused by staphylococci and add a note on their laboratory diagnosis.

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

10. Enumerate **six** serological tests for diagnosis of syphilis.
11. Describe the morphology of corynebacteria with help of a diagram.
12. List **three** infections caused by Klebsiella species.
13. Enlist three nonsporing anaerobic bacteria and write the diseases caused by them.
14. Write a note on coagulase test.

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B.SC. IN RADIOGRAPHY-III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

RADIOGRAPHIC PHOTOGRAPHS

Q.P. Code:1916

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 in detail the process of image formation in computed radiography, add a note on CR digitizer.

2. Discuss in detail about intensifying screens.

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

3. Types of X-ray films.

4. Latent image formation.

5. Developer.

6. Washing and drying.

7. Characteristic curve.

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

8. Dry and wet bench.

9. Care of cassettes.

10. Safelight and hatches.

11. Advantages and disadvantages of digital radiography.

12. Rare earth phosphors.

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B.SC. IN ANESTHESIA TECHNOLOGY -III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

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. a) Define sterilisation.
   b) Write in detail about sterilization of anaesthesia equipments.
2. a) Describe Oxygen Therapy in recovery room.
   b) Write in detail about one.
3. a) Preparation of OT for general Anaesthesia.
   b) Write in detail about Monitoring during Anaesthesia.

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

4. a) Enumerate various induction agent.
   b) Note on Thiopenton.
5. Pulse oximeter.
6. Neuro muscular Blocking agents.
7. AMBU Bag.
8. Humidifier.
9. Definition of hypoxia, cause, clinical sign and treatment.

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

10. Ketamine.
11. None Invasive Blood Pressure Monitoring.
12. Site for temperature monitoring.
13. Nasal prong.
14. Oxygen Toxicity.

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B.SC. IN CARDIAC CARE TECHNOLOGY -III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASICS OF CARDIAC TECHNOLOGY

Q.P. Code:1923

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. Role of sterilisation in catulabs? Also discuss about the hazards of Blood transfusion.
2. Discuss the management of Cardiac arrest.
3. Discuss principles of m-mode and 2-D ECHO. Write about the clinical utility of m-mode echocardiography.

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

4. Electrical field of heart.
5. Computer application in medical field.
6. ECHO measurements – "ASE" recommendation.
7. Continuous wave Doppler frequency.
8. m-mode echocardiography.
9. ECHO Transducers.

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

10. 'p' wave.
11. QT interval.
12. ECG in right ventricular hypertrophy.
13. Draw a normal ECG.
14. B-mode.

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B.SC. IN PERFUSION TECHNOLOGY -III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASICS OF PERFUSION TECHNOLOGY-II

Q.P. Code:1921

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. Write a long essay on aseptic techniques to be followed by surgeon, anaesthetist and perfusionist.
2. Compare antegrade and retrograde cardioplegia delivery.

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

3. ABG findings and management of metabolic acidosis.
4. Arterial return in CPB.
5. What do you understand by an ideal blood pumps?
6. Centrifugal pump.
7. Draw and label membrane oxygenator.

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

8. Write down abnormal findings in respiratory acidosis.
9. Oxygenator.
10. Compare pulsatile Vs Nonpulsatile flow on pump.
11. Complications of arterial cannulation.
12. Universal donor of blood.

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B.SC. IN NEUROSCIENCE TECHNOLOGY -III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED TECHNOLOGY-II BASIC PRINCIPLES OF ELECTROENCEPHALOGRAPHY

Q.P. Code:1926

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 principles of digital electroencephalography (EEG) recordings.
2. Describe artefacts during electroencephalography (EEG) recordings.
3. Describe the electroencephalography (EEG) during sleep.

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

4. 10 – 20 system of electrode placement.
5. Electroencephalography (EEG) during normal awake record.
6. Bipolar montages in electroencephalography.
7. Alpha activity.
8. Video electroencephalography (EEG) recording.
9. What are methods reduce sweating artefact?

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

10. Sphenoidal electrodes.
11. Calibration signal in EEG recording.
12. Important features of alpha activity.
13. Sleep transients.
14. Delta activity.

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B.SC. IN OPTOMETRY III SEMESTER – FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

OPTOMETRY AND DISPENSING OPTICS

Q.P. Code:0129

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 properties of crossed cylinder with an example for each.
2. Write in detail about lens surfacing and lens fault inspection?
3. What is sagittal depth and derive sag formula?

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

4. -3.00Ds/-2.00DCX90, convert into other forms of transpositions?
5. Write a note on rotary and Fresnel prisms?
6. Elaborate on photo chromatic lenses and indications.
7. Calculate the image jump of flat top bifocal. Segment dimensions: segment width is 30 mm, Depth is 20 mm and add power is +3.00D.
8. Write about facial measurement and frame choices.
9. Write about mirror coating, hard coating and hydrophobic coating.

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

10. Name the aberration seen in high plus and minus lens? What is a chromatic aberration?
11. What is lens measure?
12. Write the principles and index of Anti reflection coating.
13. What is glazing and discuss the type of bevels?
14. What are the Frame recommendations for pediatric and geriatric age group?

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B.SC. IN CRITICAL CARE TECHNOLOGY-III SEMESTER
FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED MICROBIOLOGY AND INFECTION CONTROL

Q.P. Code:1116

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 CLABSI / CRBSI. How to investigate and prevent the same.
2. Discuss various modes of spread of infection in ICU.
3. Universal safety precautions.

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

4. Types of nosocomial infection.
5. Surgical spirit / 70% iso-propyl alcohol.
6. Elimination of source of infection.
7. Povidone Iodine.
8. Disposal of infectious waste.
9. Sterilization and disinfection.

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

10. CAUTI.
11. Ventilator Associated Pneumonia.
12. Autoclaving.
13. Sodium hypochlorite.
14. Source of infection.

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

B.SC. EMERGENCY MEDICINE -III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED MICROBIOLOGY AND INFECTION CONTROL

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. Universal Safety Precautions.
2. Discuss various categories of organisms causing infection in ICU and diseases caused by them.
3. Discuss various modes of spread of infection in ICU.

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

4. Disposal of infectious waste.
5. CRBSI /CLABSI full form and how to investigate the same.
6. Discuss steps of hand hygiene.
7. Povidone Iodine.
8. Sterilization and disinfection.
9. Name various modes of spread of infections in ICU.

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

10. Sodium hypochlorite.
11. Source of infection.
12. Surgical spirit / 70% iso-propyl alcohol.
13. Define community acquired infection.
14. Expand CRBSI , CLABSI & CAUTI.

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B.SC. RENAL DIALYSIS TECHNOLOGY-III SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

BASICS OF NEPHROLOGY

Q.P. Code:1311

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 physiological changes and causes related to kidney during pregnancy? How do you do dialysis in a pregnant lady.
2. Define Hypertension. What are the stages of hypertension? Discuss about the complications of hypertension and management.
3. What is diabetic nephropathy? discuss stages and diagnosis of diabetic nephropathy

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

4. Define Alports syndrome. How to diagnose?
5. Complications of Autosomal Dominant Polycystic Kidney Disease.
6. Renal complications of Diabetes mellitus.
7. Write a note on cystic kidney disease.
8. Classify Anti-hypertensive agents. Give one example for each class.
9. Stages of diabetic nephropathy

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

10. What is Pre-Eclampsia?
11. Causes of Resistant Hypertension.
12. Non pharmacological treatment of hypertension
13. Common renal diseases seen in pregnancy
14. Clinical features of ADPKD.

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B.SC. RENAL DIALYSIS TECHNOLOGY-V SEMESTER

FEBRUARY 2024

Time: 3 Hours Max. Marks: 60

APPLIED DIALYSIS TECHNOLOGY-3

Q.P. Code:0125

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. Write about water treatment system for haemodialysis?
2. What is plasmapharesis? Write its indications, procedure and complications.

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

3. How do you treat renal anemia?
4. What is telemedicine? How it is useful in dialysis?
5. What is Noctural dialysis? Write its benefits.
6. Which problem are expected in patient with diabetes on dialysis?
7. How do you take universal precautions in dialysis?

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

8. What are the Antihypertensive are not used in dialysis patients?
9. How do you avoid hypoglycaemia in dialysis patient while on dialysis?
10. What is daily dialysis? Write its benefits.
11. Mention the devices used in water treatment plant for purification of water for haemodialysis.
12. Write about HBsAg positive patient in dialysis unit.

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FIRST SEMESTER – BACHELOR OF PUBLIC HEALTH
BACHELOR OF PUBLIC HEALTH (HONS)
DEGREE EXAMINATION – FEBRUARY 2024

Time: 3 Hours Max. Marks: 80

INTRODUCTION TO HEALTH CARE DELIVERY SYSTEM

Q.P. Code: 1854

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

Question Number **Marks**

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

1. Write the differences between public health care and medical care.
2. Explain the Principles of Primary Health Care.

SHORT ESSAY QUESTIONS: **8 X 5 = 40**

3. Explain central level health administration in India.
4. What are the contribution of John Snow in Public Health.
5. Write about health care sector of India.
6. Explain about staffing pattern at PHC.
7. What are roles and responsibilities of UNDP?
8. What are the elements of primary health care?
9. Write about the any 2 Sustainable Development Goals.
10. Write in brief about evolution of Public Health.

SHORT ANSWER QUESTIONS: **10 X 2 = 20**

11. Define Health.
12. Where is the headquarters of UNICEF.
13. What is tridosha in Ayurveda Medicine?
14. Mention the names of two daughters of Aesculapius.
15. Mention the population covered under one PHC.
16. Mention any four MDGs.
17. What are the elements of Public Health care?
18. Mention different levels of Health care.
19. Name any four voluntary health agencies of India.
20. How much population a PHC covers?

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