

**B.SC. MLTC, RADIOGRAPHY, ANAESTHESIA, PERFUSION, CARDIAC CARE,  
NEUROSCIENCE, RENAL DIALYSIS AND OPTOMETRY  
II SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**HUMAN ANATOMY -II**

**Q.P. Code:1906**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. Describe tongue under the following headings:
  - a) External features
  - b) Muscles
  - c) Nerve Supply
  - d) Applied anatomy
2. Describe the urinary bladder under following headings:
  - a) External features
  - b) Ligaments
  - c) Applied anatomy
3. Describe uterus under following headings:
  - a) Normal position
  - b) Parts & relations
  - c) Supports
  - d) Applied anatomy

**SHORT ESSAY QUESTIONS (Answer any Five):**

**5 X 5= 25**

4. Extrahepatic biliary apparatus.
5. Posterior relation of right kidney.
6. Parts & relations of right Ureter.
7. Position & blood supply of appendix.
8. Blood supply of stomach.
9. Name the parts of male & female reproductive system.
10. Name the surfaces & borders of liver.

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

11. Name the hormones of parathyroid glands.
12. Name the coverings of kidney.
13. Blood supply of ovary.
14. Name the coverings of testis.
15. Various positions of vermiform appendix.

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**B.SC. IN MEDICAL LABORATORY TECHNOLOGY**

**IV SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**ANALYTICAL BIOCHEMISTRY AND CLINICAL BIOCHEMISTRY-I**

**Q.P. Code:1963**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS(Answer any TWO):**

**2 X 10 = 20**

1. Classify jaundice. Give an account of the biomechanical test which will help in differentiating the types of jaundice. (3+7)
2. Explain in detail the principle, working procedure and applications of atomic absorption photometry. (2+6+2)
3. Classify and enumerate common renal function test. Describe creatinine clearance with its significance. (5+5)

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5= 25**

4. Define quality control and quality assurance. Explain in brief. (2.5+2.5)
5. Explain various markers of myocardial infarction.
6. Mention the various buffers present in the blood along with their composition and significance. (1+2+2)
7. List the various hazards that occur in biomedical laboratory.
8. Describe principle and instrumentation of colorimeter. Add a note on advantages of spectrophotometer over colorimeter. (1+2+2)
9. Explain respiratory regulation of body pH.

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

10. Mention the serum normal ranges of sodium, potassium and chloride. (1+1+1)
11. What is hypernatremia? List two causes for it. (1+2)
12. Mention the applications of flame photometer.
13. Explain the concentration test to assess the tubular function of the kidneys. (1+2)
14. Mention sources of errors in laboratory results.

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**B.SC. IN RADIOGRAPHY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**RADIOGRAPHIC TECHNIQUE-I**

**Q.P. Code:1966**

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 X-ray beam restrictors? Mention in detail about collimators, cones & cylinders.
2. Elaborate on routine projections for visualization of knee joint. Write briefly about projections need for visualization of patella.

**SHORT ESSAY QUESTIONS:**

**5X 5 = 25**

3. Hillsach's view for shoulder.
4. Views of wrist joint.
5. Explain how KUB radiograph is taken.
6. Different views for calcaneum.
7. Infantogram.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Gonad shield
9. PA view of chest
10. Views for carpal bones
11. Cassettes
12. Water's view

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**B.SC. IN ANESTHESIA TECHNOLOGY/PERFUSION TECHNOLOGY/CARDIAC  
CARE TECHNOLOGY -IV SEMESTER JULY 2023**

Time: 3 Hours

Max. Marks: 80

**APPLIED PHARMACOLOGY**

**Q.P. Code:1969**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS(Answer any TWO):**

**2 X 10 = 20**

1. Classify antianginals drugs. Discuss the mechanism of action, uses and adverse effects of nitrates. (3+2+3+2)
2. Classify sedatives and hypnotic. Explain the mechanism of action, uses and adverse effects of benzodiazepines. (3+2+3+2)
3. Enumerate  $\beta$ -lactam antibiotics. Describe the mechanism of action, therapeutic uses and adverse effects of penicillin G. (3+3+2+2)

**SHORT ESSAY QUESTIONS(Answer any SIX)**

**6 X 5= 30**

4. Discuss uses and adverse effects of angiotensin receptor blockers.
5. Enumerate different types of shock. Discuss the management of hypovolemic shock.
6. Discuss mechanism of action and uses of Lignocaine.
7. Discuss mechanism of action and uses and adverse effects of high ceiling diuretics.
8. Explain the principles of treatment of HIV infection. mention any one antiretroviral regimen.
9. Enumerate general anaesthetics. Discuss complications of general anaesthesia.
10. Discuss category wise treatment regimens for tuberculosis.

**SHORT ANSWER QUESTIONS(All are compulsory):**

**10 X 3 = 30**

11. Name three uses and three adverse effects of digoxin.
12. Rationale for use of ethyl alcohol in methyl alcohol poisoning.
13. Enumerate any three immunosuppressants along with their indications.
14. Enumerate various types of intravenous fluids along with their indications.
15. Enumerate uses and adverse effects of heparin.
16. Rationale for use of combination of trimethoprim with sulfamethoxazole.
17. Enumerate fibrinolytic agents along with their indications.
18. Enumerate three uses and adverse effects of aminoglycosides.
19. Define status epilepticus. Mention two drugs used in this condition.
20. Name three antihypertensive drugs used in treatments of hypertensive emergency.

**B.S.C. IN NEUROSCIENCE TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**BASIC NEUROSCIENCES-II**

**Q.P. Code:1980**

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 anatomy of brachial plexus using a neat labelled diagram
2. Describe the somatosensory pathway using a neat labelled diagram
3. Discuss the functioning of neuromuscular junction

**SHORT ESSAY QUESTIONS(Answer any FIVE):**

**5 X 5= 25**

4. Anatomy of median nerve
5. Anatomy of radial nerve
6. Briefly discuss the facial muscles
7. Discuss motor unit
8. Posterior tibial nerve
9. Briefly discuss visual pathway

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5X 3 = 15**

10. Muscles innervated by common peroneal nerve
11. Muscles innervated by Musculocutaneous nerve
12. Sural nerve
13. Superficial peroneal nerve
14. Descending cord tracts

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**B.SC. IN OPTOMETRY-IV SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**OCULAR PHYSIOLOGY AND OCULAR BIOCHEMISTRY**

**Q.P. Code:0130**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS(Answer any TWO):**

**2 X 10 = 20**

1. Draw a neat diagram of sehiotz tonometer and label the parts. Explain different types of tonometry
2. Draw a neat diagram of angle of anterior chamber and label parts. Add a note on gonioscopy
3. Enumerate the various methods of examination of fundus. Draw a neat diagram of fundus and label the parts.

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

4. Enumerate the layers of tear film with a neat diagram. add a note on tear breakup time
5. Explain the photochemistry of retina
6. Briefly discuss the aqueous production and its pathway
7. Write a brief note on normal pupillary reaction
8. Enumerate the bio chemical composition of human crystalline lens
9. Explain the various theories of colour vision

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

10. Write a note on lacrimal pump
11. Relationship of diabetes and eye
12. Enumerate the various extra ocular muscles
13. Enumerate the three routes of drug administration in eye
14. Write a note on blink reflex

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**B.SC. RENAL DIALYSIS TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED ANATOMY & PHYSIOLOGY RELATED TO DIALYSIS  
TECHNOLOGY**

**Q.P. Code:0118**

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 function of the kidney and physiological alterations in renal functions during pregnancy.
2. Discuss in detail about hyperkalemia.

**SHORT ESSAY QUESTIONS:**

**5 X 5= 25**

3. Anatomy of kidney, Ureter and bladder.
4. Renal autoregulation
5. Write in detail about creatinine
6. Define edema. Enumerate the differences between transudative and exudative edema
7. Explain the mechanism of thrombus formation.

**SHORT ANSWER QUESTIONS**

**3X 5= 15**

8. Packed cell volume
9. Branches of femoral artery
10. Hormones produced by kidney
11. Normal levels of electrolytes
12. Methods of estimation of GFR

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**B.S.C. IN CRITICAL CARE TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**BASICS OF INTENSIVE CARE TECHNOLOGY PART-I**

**Q.P. Code:1128**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. Discuss different airway secretion removal techniques.
2. Discuss in brief various oxygen delivery systems.
3. Draw a neat labeled diagram of tracheostomy tube and discuss in brief tracheostomy care.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Discuss in brief Oropharyngeal airway.
5. Preoxygenation.
6. Mention in brief different method of confirming endotracheal tube placement.
7. Mention in brief airway humidification techniques.
8. Venturi mask.
9. Mention few causes of high peak airway pressure alarm.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

10. Indications for Bronchoscopy.
11. Draw a neat labeled diagram of endotracheal tube.
12. Mention parameters to monitor after extubation.
13. Write a short note on nasal prongs.
14. Mention optimal airway suction pressure.

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**B.SC. RENAL DIALYSIS TECHNOLOGY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**PAPER-I**

**Q.P. Code:1123**

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 congenital kidney diseases and write in detail about ADPKD.
2. Write about renal physiology in normal pregnancy and renal complications during normal pregnancy.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Write in brief about diabetic nephropathy.
4. Write about diuretics-classification and side effects.
5. Write about IV fluid therapy in dialysis patients.
6. What is GFR and Creatinine clearance.
7. Write about factors modifying and contributing renal circulation.

**SHORT ANSWER QUESTIONS**

**5 X 3 = 15**

8. What is nephrotic syndrome.
9. Write causes of glomerular diseases.
10. What precautions you consider when infants and childrens are considered for dialysis.
11. What are the causes of UTI.
12. Write about online dialysis.

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**B.SC. IN MEDICAL LABORATORY TECHNOLOGY**

**VI SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**CLINICAL BIOCHEMISTRY-VI**

**Q.P. Code:0101**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS(Answer any TWO):**

**2 X 10 = 20**

1. List all the clinical laboratory records. Write in detail the components necessary in a requisition form. Add a note on importance of requisition form in clinical laboratory. (5+2+3)
2. Define biomedical waste management. Discuss the various types and how are they segregated. (3+7)
3. List the renal function tests in detail.

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

4. Discuss in detail process of collection of spot urine sample & 24 hour urine sample for biochemical analysis of urine.
5. Define quality control. Describe the importance of maintaining it in clinical laboratory.
6. Describe albinism under following headings
  - a) Enzyme defect
  - b) Clinical features
  - c) Laboratory investigation
7. Describe type of fire extinguishers in clinical laboratory. Mention use of foam as fire extenuation why it should not be used on electrical fires (3+2)
8. Describe the importance of accreditation process for clinical biochemistry laboratory.
9. List the chemical & biological hazards in clinical laboratory. Mention the precautions while handling biological hazards. (3+2)

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

10. Define quality assurance, percentages error & analytical error.
11. List three advantages of auto analyzers
12. Define decontamination & disinfection
13. Mention the normal range of serum sodium. List two causes for hypernatremia
14. List any three westgard rules

**B.SC. IN RADIOGRAPHY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**NUCLEAR MEDICINE (NM)**

**Q.P. Code:0109**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS:**

**2 X 10 = 20**

1. Describe SPECT scanning and name basic radioisotopes used in it.
2. Explain production of radionuclides in detail.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Write about PET scanning
4. Write about radioactivity and decay constant
5. Write the precaution while handling radiopharmaceuticals
6. Explain radio immune assay
7. Explain multihole collimator and crystal

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Write a note specific activity
9. Write about gamma particle and its properties
10. Difference between PET scan and SPECT scan
11. Note on radioisotopes used in PET scan
12. Write note on half life

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**B.SC. IN ANESTHESIA TECHNOLOGY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED ANAESTHESIA TECHNOLOGY-I**

**Q.P. Code:0104**

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 different site used for Neuro muscular monitoring. Compare and contrast the different site used for neuro muscular monitoring.
2. Discuss minimum mandatory monitoring under anaesthesia.
3. Basic physiology of thermo regular, various site of temperature monitoring.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Device to monitor awareness under general anaesthesia.
5. Capnography in detail.
6. Discuss non-invasive blood pressure monitoring.
7. Note on ABG collection and storage.
8. Arrangement of OT for central venous pressure monitoring.
9. Laryngeal mask airway.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Airway gadget used in recovery.
11. Post-operative shivering & Nausea.
12. Various site of monitoring oxygen saturation.
13. List cardiac drug and how will you make infusion.
14. Preparation of OT for I V cannulations.

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**B.SC. IN OPTOMETRY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

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

**Q.P. Code:0136**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. Enumerate the various optics explain the advantages and disadvantages of optical device
2. Enumerate the various types of myopia explain briefly the various modalities of treatment available in different age groups.
3. Explain the various stages of cataract and pre-operative evaluation

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

4. Explain the principles of Galilean telescope and its uses
5. Enumerate the arrangements glaucoma screening camp
6. Describe briefly the geriatric ocular evaluation
7. Computer vision syndrome and its management
8. Explain briefly the visual skills
9. Explain the role of optometrist in occupational safety measures

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Enumerate the various causes of vascular accidents in eye
11. Refractive changes due to diabetes.
12. Write a note on legal blindness
13. Explain the pin-hole uses in spectacles
14. Most mydriatics test

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**B.SC. IN NEUROSCIENCE TECHNOLOGY – VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED NEUROLOGY-II**

**Q.P. Code:0111**

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 approach to clinical neuropathies.
2. Discuss the clinical features and management of Parkinson's disease.
3. Discuss demyelinating peripheral neuropathies.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Diagnosis of carpal tunnel syndrome.
5. Dermatomyositis.
6. NMO spectrum disorders.
7. Non-compressive myelopathies.
8. Motor neuron diseases.
9. Essential tremors.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Myotonic dystrophy.
11. Duchenne muscular dystrophy.
12. Dystonia.
13. Hansen's disease.
14. Tarsal tunnel syndrome.

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**SECOND SEMESTER - B.Sc. NUTRITION AND DIETETICS  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**HUMAN PHYSIOLOGY**

**Q.P. Code: 0139**

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 erythropoiesis. List the different stages of erythropoiesis. Describe the morphology, properties, functions and fate of RBC's.
2. What is a menstrual cycle? Explain the ovarian & uterine changes taking place during the menstrual cycle.
3. Write in detail about the regulation of arterial blood pressure.

**SHORT ESSAY QUESTIONS (Answer any EIGHT):**

**8 X 5 = 40**

4. Write a note on functional anatomy of uterus.
5. Write briefly about structure & function of spinal cord.
6. What are the functions of stomach and gastric juice.
7. Write a note on different types of muscles & their function.
8. Write briefly about parathyroid glands and the function of parathormone.
9. Describe the process of urine function.
10. Write in brief about the external and internal nose.
11. Explain the structure and functions of neurons.
12. Write the morphological and etiological classification of anaemia.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

13. What are the three layers of the heart?
14. Define systolic blood pressure.
15. Name the glands of the stomach.
16. Write any four health benefits of dietary fibre.
17. Draw a labeled diagram describing the anatomy of the lungs.
18. Draw a neat labeled diagram of the Nephron.
19. Define Haemophilia.
20. Write two functions of Sertoli cells.
21. What are Osteoblasts.
22. What is premenstrual syndrome.

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**SECOND SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**BASIC SCIENCE II-MICROBIOLOGY**

**Q.P. Code:1855**

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. Classify human parasites and diseases caused by them. Discuss briefly about hookworm infection.
2. Define immunity. Discuss in detail about different types of immunity with suitable examples.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Draw a neat labelled diagram of microscope.
4. Discuss the importance of Anti-microbial resistance (AMR) in public health with suitable examples.
5. Write morphological classification of fungi.
6. Explain about indirect or passive agglutination test.
7. Enumerate droplet infection transmitted disease. Describe how Covid-19 infection became a pandemic.
8. Explain the relationship between bacteria and virus using any suitable example of bacteriophage.
9. Define Antibody and write its features.
10. Describe the sputum collection procedure from a suspected TB patient. How the remaining sputum is disposed after test.

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Define parasitology. Mention any two parasites causing illness.
12. Define spore and mention its functions.
13. List different types of microscopes available in your college or hospital.
14. Mention types of immunoglobulins and their main function.
15. Mention any four properties of antigen.
16. Name different staining technology for bacteria.
17. Explain the term Lattice hypothesis.
18. Enumerate Kochs postulates for infections diseases.
19. Enlist aseptic precautions to be taken during blood sample collection from a HIV suspected patient.
20. Enumerate diseases (any four) which can be detected by stool/faces examination of the patient.

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**FOURTH SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**HEALTH OF CHILD ADOLESCENT AND AGEING OF POPULATION**

**Q.P. Code:1862**

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. Discuss the health problems of adolescent population and their prevention or control measures in India.
2. Discuss the common health problems of under five children. Explain their prevention or control measures using IMNCI module in India.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Describe briefly child Labour.
4. Compare & contrast between well baby clinic and child guidance clinic.
5. Describe briefly causes & prevention of mental retardation.
6. Describe briefly – silent features of Rashtriya Bala Sulaksha Karyakram (RBSK).
7. Describe briefly – essential new born care.
8. Discuss briefly – Gender bias & Girl Child.
9. Discuss briefly – health problems of street children.
10. Discuss briefly about 'Elder Abuse'.

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Define Growth and Development in children.
12. Define Substance Abuse.
13. Enumerate Vaccines given to geriatric population in India.
14. Explain child sex Ratio - Briefly.
15. Define weaning.
16. Enumerate advantages of breastfeeding for infants.
17. Enlist any four common causes of infant mortality.
18. Enlist any four causes of pre-term birth in India.
19. Define 'Rooming in' and 'Bedding in' terms.
20. Mention two advantages and two disadvantages of old age homes in India.

**SIXTH SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**PREVENTIVE OBSTETRICS AND FAMILY PLANNING**

**Q.P. Code:1868**

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. Discuss salient features of RMNCH + A programme.
2. Enlist Reproductive Tract Infections (RTIs) and their prevention / control measures.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Describe functions of marriage.
4. Discuss the essential interventions of RMNCH + A programme.
5. Describe Antenatal Advice to primigravida woman.
6. Discuss Medical conditions causing maternal morbidity.
7. Discuss various causes of infertility in men.
8. Discuss about uses, advantages and disadvantages of female condom.
9. Discuss the steps of maternal death review.
10. Discuss about Intra Uterine Contraceptive Devices (IUCD).

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Define contraception.
12. Define Perinatal mortality Rate.
13. Define Primary infertility.
14. Define Polyandry.
15. Enumerate Immunization during pregnancy.
16. Enumerate specific goals of pre-conception care.
17. Define eligible couple..
18. Explain briefly Minipill.
19. Enumerate services of Adolescent Friendly Health clinic.
20. Explain briefly Rooming in and Bedding in terms.

**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 (3<sup>rd</sup> Cycle)

Placed in 'A' Category by MHRD (GoI)

**B.SC. IN CARDIAC CARE TECHNOLOGY -VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**ECG & ECHO**

**Q.P. Code:0107**

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. Define cardiac arrest. Write a note on the causes & management of cardiac arrest.
2. Trans-esophageal ECHO – indications, procedure & complications of the same.

**SHORT ESSAY QUESTIONS:**

**5 X 5= 25**

3. ECHO in dilated cardiomyopathy
4. Holter monitoring
5. Physiology of exercise testing
6. Exercise protocols
7. Contrast echocardiography

**SHORT ANSWER QUESTIONS:**

**5X 3 = 15**

8. ECG findings in hyperkalemia
9. Advantages of 3D ECHO
10. Name 3 tachyarrhythmia's
11. P wave in electrocardiogram
12. Contraindications of TMT

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**FOURTH SEMESTER - B.Sc. NUTRITION AND DIETETICS  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**ADVANCED DIETETICS**

**Q.P. Code: 1125**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. Enumerate the functions of liver. Write the MNT for liver cirrhosis in detail.
2. Discuss the clinical features & pathogenesis of T2DM. Discuss dietary management of T2DM in detail.
3. Write in detail about the stages and dietary management of chronic renal failure

**SHORT ESSAY QUESTIONS (Answer any EIGHT):**

**8 X 5 = 40**

4. Write a short note on the significance of drug nutrient interactions of Parkinson's disease.
5. Write a short note on DASH diet.
6. Discuss clinical features and risk factors and risk contributing to Gout.
7. Discuss the guidelines for cancer prevention/chemoprevention.
8. Discuss the dietary guidelines for hyperlipidemic patients.
9. Write a short note on protein intake during dialysis.
10. What are the clinical features of ascites? Discuss its nutritional management in brief.
11. Calculate energy, protein and fats for – Ms. G, 57 kg suffering from gallstones. Write a note on type of fats to be consumed.
12. Write the stages involved in the pathogenesis of alcoholic liver diseases.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

13. Mention the types of insulin
14. Give examples of high purine foods and high fructose corn syrup.
15. What is cancer cachexia?
16. What are the modifiable risk factors of cardiovascular diseases?
17. What are antioxidants? Give examples.
18. What is diabetic ketoacidosis?
19. Enlist neurological disorders of non-nutritional origin.
20. Which type of diets are indicated in migraines?
21. What are the features of anorexia nervosa
22. What is leaching? Mention potassium rich foods.

**B.SC. IN PERFUSION TECHNOLOGY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**PERFUSION TECHNOLOGY-ADVANCED**

**Q.P. Code:0113**

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 the role of the perfusionist in minimal invasive cardiac surgery
2. Write the essay on preservation techniques by perfusionist during procurement and procedure of heart & lung transplant

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Indications for VV ECMO
4. Near infrared spectroscopy (NIRS) use during CPB
5. Pharmacological measures to decrease systemic inflammatory response during CPB
6. Nitric oxide on bypass
7. Weaning criteria from ECMO

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Leukocyte filter
9. Role of corticosteroids during CPB
10. Clinical assessment before considering patient for peripheral cannulation
11. Compare aortic and femoral arterial cannulation
12. Compare centrifugal pump & roller pump

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**SECOND SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 70**

**FUNDAMENTALS OF FOOD PRODUCTION PATISSERIE - II**

**Q.P. CODE: 1825**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

- |    |    |  |         |
|----|----|--|---------|
| 1. | A) | What are raising agents and how are they used in baking?   | 2 marks |
|    | B) | Describe the structure of a wheat grain and how it contributes to baking process?                  | 3 marks |
|    | C) | What are the basic ingredients used in bread making?   | 5 marks |
|    | D) | What are some international breads and other yeast dough products?                                 | 5 marks |
| 2. | A) | What are fats and oils and how are they used in baking?  | 2 marks |
|    | B) | What are some miscellaneous ingredients used in cake baking?                                       | 3 marks |
|    | C) | What are the different pastry techniques and principles?   | 5 marks |
|    | D) | How is marzipan and fondant made?  | 5 marks |
| 3. | A) | How are choux paste made?  | 2 marks |
|    | B) | What are some common faults that can occur in bread fabrication, and how can they be fixed?        | 3 marks |
|    | C) | What are the functions of a menu?  | 5 marks |
|    | D) | What is a culinary museum? How it is useful?   | 5 marks |
| 4. | A) | What are laminated pastries?   | 2 marks |
|    | B) | How can a menu be used as a control tool for a restaurant?   | 3 marks |
|    | C) | How does wine food pairing work?   | 5 marks |
|    | D) | What are some basic principles of vegetable cooking, and how can they be applied to menu planning? | 5 marks |
| 5. | A) | How can customer feedback be used to improve menu planning?  | 5 marks |
|    | B) | Give a standard recipe for a black forest pastry for 4 portions.                                   | 5 marks |

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**FOURTH SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 70**

**FOOD CULTURE AND SUSTAINABILITY**

**Q.P. CODE: 1829**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

- |    |    |  |         |
|----|----|--|---------|
| 1. | A) | Explain the concept of mixed culture in cuisine and its potential for dilution.                      | 2 marks |
|    | B) | What is the significance of understanding the meanings of food in different cultures?                | 3 marks |
|    | C) | How do social conditions, such as gender and affordability, affect eating habits?                    | 5 marks |
|    | D) | How does food function as a commercial tool in today's society?                                      | 5 marks |
| 2. | A) | Name 10 flavoring agents used in Kashmiri cuisine.   | 2 marks |
|    | B) | Explain the concept of mixed culture and its effects on culinary traditions.                         | 3 marks |
|    | C) | Analyze the historical background and key elements of Awadhi cuisine.                                | 5 marks |
|    | D) | Discuss the flavors and dishes associated with Parsi cuisine.  | 5 marks |
| 3. | A) | What is tempering of chocolates?.  | 2 marks |
|    | B) | Discuss the role of culture in shaping food preferences and culinary traditions.                     | 3 marks |
|    | C) | How does food relate to power dynamics in society?   | 5 marks |
|    | D) | Define the concept of "Ghar ka Khana" in traditional home-style cooking.                             | 5 marks |
| 4. | A) | How a food can be healer?.   | 2 marks |
|    | B) | Explain the relationship between affordability and eating habits in different socio-economic groups. | 3 marks |
|    | C) | Explain the process of making chocolate-based desserts.  | 5 marks |
|    | D) | What are the key elements of a healthy and balanced diet?  | 5 marks |
| 5. | A) | What are the essential ingredients and techniques in Thai cuisine?                                   | 5 marks |
|    | B) | Explain the process of making mayonnaise sauce.  | 5 marks |

**SIXTH SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 70**

**ADVANCE CULINARY MANAGEMENT-II**

**Q.P. CODE: 1837**

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

**Question Number**

**Marks**

- |    |  |         |
|----|--|---------|
| 1. | A) Define the larder kitchen.  | 2 marks |
|    | B) How do artistic elements contribute to the culinary experience in molecular gastronomy  | 3 marks |
|    | C) Assess the impact of heat on the physical and chemical transformations in molecular gastronomy, explaining the effects on ingredients.  | 5 marks |
|    | D) Evaluate the functions of the larder kitchen, discussing how it supports overall kitchen operations.  | 5 marks |
| 2. | A) What are the HACCP standards in cruise kitchens?  | 2 marks |
|    | B) What are the common ingredients used in the larder kitchen?   | 3 marks |
|    | C) Describe the sub-sections of the larder kitchen and their respective responsibilities in the culinary workflow.   | 5 marks |
|    | D) Analyze the key ingredients commonly used in the larder kitchen, explaining their role in various dishes.   | 5 marks |
| 3. | B) What is the slow food culture?  | 2 marks |
|    | Discuss the importance of HACCP standards in maintaining food safety on a cruise ship.   | 3 marks |
|    | C) Analyze the selection and use of ingredients in cruise kitchen operations, considering factors such as availability, storage, and quality control.  | 5 marks |
|    | D) Describe the processing of food in cruise kitchen, from procurement to preparation, emphasizing efficiency and quality standards.   | 5 marks |
| 4. | A) What is FSSAI certification?  | 2 marks |
|    | B) Describe the impact of FSSAI regulations on Indian packed food and beverages.   | 3 marks |
|    | C) Explore the role of food journalism in advertising and marketing, discussing its impact on consumer perception and culinary trends.   | 5 marks |
|    | D) Design a culinary trail in the Belagavi region, showcasing the diverse food culture and heritage of the area, including key landmarks and iconic food establishments.                               | 5 marks |
| 5. | A) Assess the impact of FSSAI (Food Safety and Standards Authority of India) on the Indian packed food and beverages industry, considering its role in ensuring food safety and regulatory compliance. | 5 marks |
|    | B) Evaluate the impact of CFTRI on the culinary industry, considering its role in promoting food safety, quality control, and technological advancements.  | 5 marks |

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**B.SC. MLTC, RADIOGRAPHY, ANAESTHESIA, PERFUSION, CARDIAC CARE,  
NEUROSCIENCE, RENAL DIALYSIS AND OPTOMETRY-II SEMESTER  
JULY 2023**

**Time: 3 Hours**

**Max. Marks: 60**

**HUMAN PHYSIOLOGY-II AND BASICS OF BIOCHEMISTRY- II**

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-II Q.P. CODE : 1907[ 30 Marks ]**

<b>Question Number</b>	<b>Marks</b>
<b>LONG ESSAY QUESTIONS (Answer any ONE):</b>	<b>1 X 10 = 10</b>
1. Define blood pressure with normal value. Describe the factors affecting blood pressure. Define hypertension & hypotension.	(3+5+2)
2. Name the hormones secreted from pituitary gland. Describe the functions of growth hormone.	(4+6)
<b>SHORT ESSAY QUESTIONS (Answer any TWO):</b>	<b>2 X 5 = 10</b>
3. Explain the composition and functions of saliva.	
4. Describe the stages of spermatogenesis.	
5. Define and classify hypoxia. Explain any ONE type of hypoxia.	
<b>SHORT ANSWER QUESTIONS (All are compulsory):</b>	<b>5 X 2 = 10</b>
6. List the functions of placenta	
7. Draw neat labelled diagram of ECG.	
8. Define GFR with normal value.	
9. List the hormones secreted from adrenal gland.	
10. Name the respiratory muscles.	

**SECTION B :BASICS OF BIOCHEMISTRY - II...Q.P. CODE : 1908 [ 30 Marks ]**

<b>Question Number</b>	<b>Marks</b>
<b>LONG ESSAY QUESTIONS (Answer any ONE):</b>	<b>1 X 10 = 10</b>
1. Define gluconeogenesis. Enlist the substrates for it. Trace the pathway from pyruvate to glucose.	(1+2+7)
2. Describe the sources, biochemical functions, requirements and deficiency manifestations of Vitamin B12. Add a note on floate trap.	(1+3+1+2+3)
<b>SHORT ESSAY QUESTIONS (Answer any TWO):</b>	<b>2 X 5 = 10</b>
3. Define isoenzymes. Enumerate the clinical significance of any Two isoenzymes.	(1+4)
4. Explain the clinical significance of blood urea and creatinine along with their normal values.	(2.5+2.5)
5. Describe the dietary absorption and biochemical functions iron in the body.	(3+2)
<b>SHORT ANSWER QUESTIONS (All are compulsory):</b>	<b>5 X 2 = 10</b>
6. Mention sources, dietary requirements of phosphorus. List FOUR functions of phosphorus.	(0.5+0.5+2)
7. What is calorific value? Mention the calorific value of carbohydrates, proteins and lipids.	(1+2)
8. Explain the mister cycle.	
9. Name any two anticoagulants used in clinical laboratory with their uses.	
10. Write a note on non protein nitrogenous compounds.	

**B.Sc. IN MEDICAL LABORATORY TECHNOLOGY**

**IV SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**HEMATOLOGY AND CLINICAL PATHOLOGY**

**Q.P. Code:1964**

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 investigation of haemorrhagic disorders. Discuss various methods for estimation of clotting time. (3+7)
2. Discuss coagulation cascade. Add a note on prothombine time. (6+4)
3. Discuss automation in haematology. (10)

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5X 5= 25**

4. Write a note on demonstration of LE cell.
5. Write a note on PAS stain
6. Discuss working of coagulation analyzer
7. Name platelet function. Discuss any one in detail. (2+3)
8. Discuss procedure of APTT
9. Discuss myeloid cells in bone marrow.

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

10. Name various anticoagulants used in haematology and their uses.
11. Draw a neat diagram of bone marrow aspiration needle.
12. Name coagulation factors.
13. Describe staining procedure of bone marrow aspiration smears.
14. Name three clinical diseases where platelets are reduced.

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**B.SC. IN RADIOGRAPHY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**RADIOGRAPHY TECHNIQUE-II**

**Q.P. Code:1967**

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 indication, contraindications and patient preparation of HSG procedure.
2. Classify the contrast agent based on its osmolarity and its clinical use. Write about their toxicity.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Explain mammography.
4. Explain T-tube cholecystography.
5. Explain myelography procedure.
6. Explain barium swallow procedure.
7. Write about angiography.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Indication of MCU procedure.
9. Emergency drugs used in radiology department.
10. Write about macro radiography.
11. Note on patient preparation for barium enema.
12. Contrast media in HSG.

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**B.S.C. IN ANESTHESIA TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED ANAESTHESIA TECHNOLOGY-I**

**Q.P. Code:1970**

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. Preparation of OT for 34 years female posted for labour analgesia.
2. a) Discuss in brief complication of spinal anaesthesia.  
b) How will you prepare tray for epidural blood patch.
3. Anatomy of caudal space. Note on drugs used.

**SHORT ESSAY QUESTIONS(Answer any FIVE):**

**5 X 5= 25**

4. Describe different types of spinal needles.
5. Combined spinal epidural anaesthesia.
6. Discuss technique for identification for epidural space.
7. Discuss advantages of regional anaesthesia over general anaesthesia.
8. a) Normal Saline  
b) Ringer lactate
9. Classify local anaesthetic, write mechanism of action.

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

10. Systemic effect after spinal anaesthesia.
11. Enumerate adjuncts used in epidural anaesthesia.
12. Oxygen therapy used in recovery room. Discuss one of them.
13. Atropine.
14. Aseptic precaution for spinal anaesthesia.

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**B.S.C. IN PERFUSION TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED PERFUSION TECHNOLOGY-I**

**Q.P. Code:1975**

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 the long essay on heat exchangers & their management.
2. Write the long essay on various priming solutions used during CPB.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Write the essay on hypothermia, its advantages & disadvantages.
4. Metabolic acidosis management.
5. Preanaesthetic medicine in planned coronary artery bypass patients.
6. Draw and label oxygenator.
7. Management of oxygenator failure.

**SHORT ANSWER QUESTIONS:**

**5X 3 = 15**

8. Isoflurane during conduct of CPB
9. Reverse outologus priming
10. Merits of hemodilution
11. Compare hetastarch and blood
12. Short note on Mannitol

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**B.SC. IN CARDIAC CARE TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**ELECTROCARDIOGRAPHY-I**

**Q.P. Code:1973**

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. Mention indications & contraindications of TMT. Describe Bruce & modified Bruce exercise. List complications of TMT.
2. Describe ECG features of acute myocardial infarction – Acute AWMl, Acute IWMI, Acute posterior wall MI

**SHORT ESSAY QUESTIONS:**

**5 X 5= 25**

3. ECG features in dextrocardia
4. QT interval
5. Electrical axis
6. ECG in pulmonary stenosis
7. ECG in TOF

**SHORT ANSWER QUESTIONS:**

**5X 3 = 15**

8. PR segment in ECG
9. ECG in pericardial effusion
10. Naughton exercise protocol
11. ECG features of dilated cardiomyopathy
12. T wave in ECG

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**B.SC. IN NEUROSCIENCE TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 80

**APPLIED TECHNOLOGY III: NERVE CONDUCTION STUDIES (BASIC)**

**Q.P. Code:1981**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. How do perform F response & H reflex studies
2. Describe principles of sensory nerve conduction
3. How do perform repetitive nerve stimulation

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Describe median nerve conduction studies.
5. How do you perform common peroneal nerve conduction studies
6. Describe ulnar nerve conduction studies.
7. Describe factors affecting nerve conduction studies
8. Describe superficial peroneal nerve conduction studies
9. Sensory nerve action potential SNAP

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Lateral cutaneous nerve & fore arm.
11. Musculo cutaneous nerve conduction
12. Axillary nerve conduction
13. Compound muscle action potential CMAP
14. Radial nerve sensory conduction studies

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**B.SC. IN OPTOMETRY-IV SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**OCULAR PHARMACOLOGY AND NUTRITION AND HOSPITAL PROCEDURE**

**Q.P. Code:0131**

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 the methods of retinoscopy. Add a note on cycloplegic drugs used in retinoscopy.
2. Enumerate the various accessories instruments used in slit lamp. Explain its clinical importance.
3. Explain the pharmacology of atropine drops and its uses.

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

4. Enumerate the various causes of allergy. Add a note on its treatment
5. Write a brief note on protein rich food items
6. Enumerate the various topical antibiotics used in ophthalmology with its pharmacological action
7. Enumerate the various methods of ocular anaesthesia
8. Explain ocular toxicology and its adverse effect on eye
9. Methods of examination of astigmatism

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5 X 3 = 15**

10. Enumerate the various uses of fluorescein dye in ophthalmology
11. Enumerate micro and macro nutrients
12. Uses of occuserties in ophthalmology
13. Uses of antioxidants in eye
14. Enumerate the antiviral drugs used in eye

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**B.SC. RENAL DIALYSIS TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**PHARMACOLOGY RELATED TO DIALYSIS TECHNOLOGY**

**Q.P. Code:0120**

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 antihypertensive. Add a detailed note on the action, uses and adverse effects of beta-blockers.
2. Erythropoietin classification dose and side effects.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Describe haemodialysis concentrates – composition & dilution.
4. Heparin – associated complications.
5. Potassium exchange resins and their mode of administration.
6. Side effects of diuretics.
7. Antiseptic and disinfectants.

**SHORT ANSWER QUESTIONS (Answer any THREE):**

**3 X 5 = 15**

8. Name three potassium sparing diuretics
9. Indications of heparin free dialysis
10. Vitamin D analogues
11. Folic acid
12. Uses of protamine sulphate

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**B.S.C. IN CRITICAL CARE TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**BASICS OF INTENSIVE CARE TECHNOLOGY PART-II**

**Q.P. Code:1129**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. Define ARDS , Etiology, Clinical presentation and discuss in brief various measures available to treat Hypoxia.
2. Discuss in brief extra pulmonary tuberculosis.
3. Mention various causes of pulmonary oedema and discuss in brief various modes of treatment.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Discuss in brief management of community acquired pneumonia.
5. Chronic bronchitis.
6. Emphysema.
7. Discuss various modes of treatment for pulmonary embolism.
8. Discuss various drugs used in treatment of myocardial infarction.
9. Discuss in brief opportunistic infections.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

10. Mention rescue measures for treating hypoxia in ARDS.
11. Mention common organisms causing community acquired pneumonia.
12. Mention few modalities of treatment of COPD.
13. Define shock.
14. Mention various causes for lung collapse.

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**B.SC. RENAL DIALYSIS TECHNOLOGY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**PAPER-II**

**Q.P. Code:1124**

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 different types of Erythropoietin dosage and side effects.
2. Write about priming of haemodialysis machine.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Principle of dialysis – definitions.
4. Non-Pharmacological prevention and treatment of Hypertension.
5. Indications of dialysis.
6. Write about daily dialysis.
7. Write about SLEED.

**SHORT ANSWER QUESTIONS**

**5 X 3 = 15**

8. Indications for Plasma spheres.
9. Vaccinations in hemodialysis.
10. What are the usefulness of dialysis reuse?
11. Types of vascular access.
12. What is protamine sulphate?

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**B.Sc. IN MEDICAL LABORATORY TECHNOLOGY**

**VI SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**MICROBIOLOGY-VI**

**Q.P. Code:0102**

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 on various tests use for diagnosis parasitic infection
2. Define nosocomial infections. Describe the types and etiology of such infection. add a note on prevention of nosocomial infections.
3. Describe various types of biomedical waste in a health care setting. Explain the steps in segregation and disposal of biomedical waste as per the latest regulations.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Describe the guidelines for clinical sample collection for microbiological investigations
5. Explain the principles and application of agglutination tests
6. Classify bio-safety cabinets describe the uses of each type in detail.
7. Classify culture media discuss enriched and enrichment media with their uses
8. Discuss automation in diagnostic microbiology laboratory and write its implications
9. Describe universal safety precautions

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. What is plasma sterilization? Mention two uses of the same.
11. Write three methods for storing the bacterial strains
12. Name three transport media and mention their uses
13. Define sterilization. Name three examples of dry heat methods
14. Write three applications of ELISA test

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**B.S.C. IN RADIOGRAPHY-VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**BIOMEDICAL RESEARCH AND MEDICAL ETHICS IN RADIOLOGY**

**Q.P. Code:0110**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS:**

**2 X 10 = 20**

1. Describe the design, study protocol analysis and interpretation of cohort study.
2. Discuss the purpose and scope of bioethics in the field of medical care and research.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Composition of institutional ethical committee.
4. Phases of randomised controlled trial
5. Scope of bioethics in medical research
6. Case control study and its applications
7. Informed consent

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Methods of data collection
9. Random sampling
10. Disadvantages of cohort study
11. Observational study and its types
12. Define cross sectional study

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**B.SC. IN ANESTHESIA TECHNOLOGY -VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED ANESTHESIA TECHNOLOGY-II**

**Q.P. Code:0105**

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 electrical hazard and safe gaurch in the operative room.
2. Basic life support.
3. Write in detail about preparation OT for difficult intubation.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Micro and Macro shock.
5. Discuss post anaesthesia care unit.
6. Laryngeal mask airway.
7. Preparation of OT for fiberoptic intubation.
8. Basics monitoring in recover room.
9. How will you diagnose Hypotension and treat the same.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Fire Traid.
11. Post operative nausea and vomiting.
12. Atropine.
13. Explain how to confirm proper placement of ET tube.
14. Write in detail about cardiac drug and preparations of infusion.

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**B.SC. IN OPTOMETRY-VI SEMESTER**  
**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**OCCUPATIONAL OPTOMETRY RESEARCH METHODOLOGY AND STATISTICS**

**Q.P. Code:0137**

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 briefly the steps involved in research process add a note on biostatistics in research process.
2. Discuss school screening programe.
3. Discuss briefly the role laser in ophthalmology. Discuss briefly their hazards and its prevention

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5= 25**

4. How do you organize the date and make it analyzable
5. Significance of colour vision testing in police/army personnel
6. Write a short note on scale of measurement
7. Pre employment evaluation of eye examination
8. Explain the safety eye wear in an industrial set up
9. Thermal burns to the eye

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Visual standards for job employment
11. Enumerate the target diseases in the vision 2020 program
12. Computer vision syndrome
13. Optometrist role in community ophthalmology
14. Enumerate the causes of amblyopia

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**B.SC. IN NEUROSCIENCE TECHNOLOGY -VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED TECHNOLOGY-VII ELECTROMYOGRAPHY (ENMG)  
AND EVOKED POTENTIALS (EP)**

**Q.P. Code:0112**

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 electromyographic changes in myopathic diseases.
2. Discuss role of visual evoked potentials in central nervous system diseases.
3. Discuss the intraoperative monitoring using auditory evoked potentials.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Vestibular evoked myogenic potentials.
5. Intraoperative monitoring using electromyography.
6. Briefly discuss the surface recording of electromyography in myoclonus.
7. Single fiber electromyography (SFEMG).
8. Turns amplitude ratio.
9. Vestibular evoked myogenic potentials. (VEMP)

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Fiber density measurement.
11. Jitter analysis.
12. Visual evoked potentials in multiple Sclerosis.
13. Somatosensory evoked potentials in radiculopathies.
14. Auditory evoked potentials in acoustic schwannoma.

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**SECOND SEMESTER - B.Sc. NUTRITION AND DIETETICS  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**NUTRITIONAL BIOCHEMISTRY-II**

**Q.P. Code: 0140**

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. Classify Renal functions tests. Describe Creatinine clearance test with its significance.
2. Describe the sources, RDA Biochemical functions and deficiency manifestations of calcium.
3. Define amino acids. Describe the classification of amino acids based on structure and nutritional importance.

**SHORT ESSAY QUESTIONS (Answer any EIGHT):**

**8 X 5 = 40**

4. Explain in detail sources, RDA, biochemical functions and deficiency manifestations of vitamin K.
5. What are blood buffers. Explain their role in acid base balance.
6. Explain the sources, RDA, biochemical functions of Vitamin B6.
7. List thyroid function tests. Mention the classical laboratory finding in Hypo and Hyperthyroidism.
8. What is urea? Mention its normal serum value range. Explain the causes for uremia.
9. Define transamination & deamination. Give examples.
10. Discuss dehydration and over hydration.
11. List the functions of Phosphorus.
12. Explain the structure of t-RNA with a neat labeled diagram.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

13. Define proteinuria? Mention two causes.
14. Define Jaundice. Mention two causes for hepatic Jaundice.
15. Define Nucleosides. Give suitable examples.
16. Mention deficiency manifestations of zinc.
17. What is Hypokalemia. List two causes.
18. Mention normal serum value levels of a) Urea b) Creatinine.
19. Define transport proteins. Give two examples.
20. Enumerate the steps of translation.
21. List two inhibitors of Iron absorption.
22. Describe the deficiency manifestations of Vitamin C.

**SECOND SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**FUNDAMENTALS OF ENVIRONMENTAL STUDIES**

**Q.P. Code: 1856**

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 natural resources. Discuss in detail about utilization, exploitation & conservation of mineral resources.
2. Enlist terrestrial ecosystems. Discuss in detail about grass land or desert ecosystem. (any one)

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Discuss the control & prevention of air pollution.
4. Describe Rain water harvesting measures in urban area.
5. Discuss management of sharp waste in a hospital.
6. Discuss the health hazards & prevention of noise pollution.
7. Define Pollution. Enumerate roles of individual in its prevention.
8. Enlist sources of water. Describe the causes of water pollution.
9. Enlist non-renewable energy sources. Discuss in detail about any one non-renewable energy source in India.
10. Discuss the role of Tribal people in environmental conservation and their rights.

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Enlist effects of mining on mine workers health.
12. Explain briefly keystone species with a suitable example.
13. Write briefly about wind energy.
14. Write briefly about food chain with example.
15. Enlist any four effects of marine pollution.
16. Name any four bio-geographic zones of India.
17. Enlist any four names of persons who worked for the protection/conservation of environment in India.
18. Enlist any four health effects of nuclear bomb explosion.
19. Write briefly the role of Vermi-composting in environment.
20. Enlist any four organizations/institutes working for the protection of environment across the world.

**FOURTH SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**BASICS OF HEALTH INFORMATION SYSTEM AND HEALTH ECONOMICS**

**Q.P. Code:1863**

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. Discuss in detail about electronic health records. Add a note on confidentiality of patients health record.
2. Define Health economics. Describe the concepts and scope of health economics.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Discuss about poverty line used in India.
4. Describe cost effective analysis with a suitable example and its uses in public health.
5. Discuss about out of pocket expenditure for an organization and an individual with suitable examples.
6. Discuss the concept of elasticity in relation to demand and supply in market.
7. Discuss the scope and uses of Health Information System.
8. Discuss about strengths and weakness of births and death registration as source of HIS in India.
9. Discuss about the requirements of Health Information System for a 100 bedded taluka hospital.
10. Differentiate between Data information, knowledge and wisdom.

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Define gross national product.
12. Explain briefly law of supply.
13. Explain briefly external cost with a suitable example.
14. Define explicit cost and implicit cost.
15. Explain briefly record linkage with an example.
16. Mention any two uses of disease notification in public health.
17. Differentiate between macroeconomics and microeconomics.
18. Define social marketing in public health sector.
19. Enlist uses of marriage registration as a source of Health information at level in India.
20. What are the types of costs?

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**SIXTH SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**PUBLIC LEADERSHIP AND MANAGING HEALTH ORGANIZATION  
QUALITY AND SAFETY IN HEALTHCARE**

**Q.P. Code:1869**

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 management. Discuss in detail about Health care management.
2. Define motivation. Discuss theories of motivation and its role in health care management.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Enumerate universal precautions.
4. Describe salient features of Indian Public Health standards for subcentre. (SC)
5. Discuss the job responsibilities of health worker female in primary health centre.
6. Describe the staffing pattern of PHC as per IPHS.
7. Discuss about the maternal and child health care services provided at community health centre level.
8. Explain about Goal theory.
9. Explain about Maslow's need hierarchy.
10. Describe NABL standards briefly.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

11. Enumerate levels of leadership.
12. Enlist acquired traits according to trait theory.
13. Define Administration.
14. Enumerate any four Leadership skills.
15. Enumerate any four benefits of NABH accreditation.
16. Enumerate functions of Anganwadi workers for health.
17. Enlist two benefits of systems thinking.
18. Mention any two limitations of trait theory.
19. Define control in management.
20. Enlist job responsibilities of health educator in PHC.

**B.SC. IN CARDIAC CARE TECHNOLOGY -VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**CARDIAC CATHETERIZATION**

**Q.P. Code:0108**

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. Procedure, indications & complications of balloon mitral valvotomy
2. Peripheral angiogram indications, contraindications, materials used & its procedure.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Left heart catheterisation
4. Coil closure of PDA
5. Different views to visualise coronary arteries
6. Preparation of patient for cath procedure
7. Myocardial perfusion scan

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Indications of permanent pacemaker implantation
9. Name 3 catheters used for right heart catheterisation
10. CD recording & storage
11. Procedure during pregnancy
12. Name 3 non-ionic contrast agents

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**SECOND SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023****Time: 3 Hours****Max. Marks: 70****FUNDAMENTALS OF FOOD & BEVERAGE SERVICE - II****Q.P. CODE: 1826**

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

<b>Question Number</b>		<b>Marks</b>
1	A) What are the different types of wine?	2 marks
	B) How do alcoholic beverages differ from non-alcoholic beverages?	3 marks
	C) What are alcoholic beverages?	5 marks
	D) How does costing impact food and wine menus?	5 marks
2	A) What are tannins?	2 marks
	B) What are some common grape varieties used in winemaking?	3 marks
	C) Compile a beer list that complements a food menu?	5 marks
	D) What is champagne? What makes it unique?	5 marks
3	A) What are the main ingredients of beer?	2 marks
	B) How can technology be used to enhance the wine selection process?	3 marks
	C) Describe the primary ingredients role for toddy.	5 marks
	D) What is the difference between an ale and a lager?	5 marks
4	A) What are the primary ingredients of toddy?	2 marks
	B) How can you pair other fermented alcoholic beverages with food?	3 marks
	C) What is sweet wine give an example?	5 marks
	D) What is cider? How it is made?	5 marks
5	A) Explain the factors that can influence the taste and quality of wine. How can these be managed and controlled?	10 marks

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**FOURTH SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023****Time: 3 Hours****Max. Marks: 70****FOOD AND WINE STUDIES****Q.P. CODE: 1830**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

<b>Question Number</b>		<b>Marks</b>
1.	A) What are the key characteristics and production techniques of vodka?	2 marks
	B) Explain the excise rules and regulations governing the production and sale of alcoholic beverages.	3 marks
	C) Describe the various types of distillation techniques used in the production of spirits.	5 marks
	D) Describe the different types of bars, including their styles, layouts.	5 marks
2.	A) What are the key features and production methods of rum?	2 marks
	B) What is the purpose of introducing students to alcoholic beverages and bar operations?	3 marks
	C) Explain the production methods, uniqueness, and popular brands of whisky/whiskey	5 marks
	D) Explain the production methods, characteristics, and types of brandy, including Cognac, Armagnac, and other varieties.	5 marks
3.	A) What are the essential tools and equipment used in mixology?	2 marks
	B) Explain the production process and unique features of gin.	3 marks
	C) Describe the aging process and characteristics of rum.	5 marks
	D) Explain the concept of flavor pairing and balance in creating cocktails.	5 marks
4.	A) What are the essential steps in cocktail preparation and service?	2 marks
	B) Explain the pricing considerations involved in the art of mixology.	3 marks
	C) Explain the role of branding and packaging in the success of alcoholic beverages.	5 marks
	D) Explain the factors to consider when designing a bar layout.	5 marks
5.	A) Explain the concept of menu engineering and its application in the beverage business.	5 marks
	B) Explain the concept of flair bartending and its role in entertainment and customer engagement	5 marks

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**SIXTH SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023****Time: 3 Hours****Max. Marks: 70****ADVANCE FOOD AND BEVERAGE MANAGEMENT-II****Q.P. CODE: 1838**

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

<b>Question Number</b>		<b>Marks</b>
1.	A) What is MICE?	2 marks
	B) What are the different categories of staff in food and beverage operations?	3 marks
	C) Explain the purpose & importance of items like speed racks, garnish containers, ice walls in a bar setup.	5 marks
	D) What are the job descriptions and specifications for food and beverage staff?	5 marks
2.	A) How can efficiency be developed and improved in a food and beverage outlet?	2 marks
	B) How is a duty roaster prepared and managed in food and beverage operations?	3 marks
	C) How can you develop efficiency in a food and beverage establishment?	5 marks
	D) How can standard operating procedures streamline the operations of a food and beverage outlet?	5 marks
3.	A) Describe the key areas of a bar setup, including the front bar, back bar, and under bar.	2 marks
	B) Explain the concept of a cocktail bar and a dispense bar.	3 marks
	C) Compare and contrast different types of bars based on their characteristics and offerings.	5 marks
	D) How does effective bar stock management and bar control impact the profitability and smooth functioning of a bar?	5 marks
4.	A) Explain the process of function organization in catering, from planning to execution.	2 marks
	B) What are the different areas of a bar, such as front bar, back bar, and under bar? Describe their functions.	3 marks
	C) Provide an overview of the definition, history, and classification of cocktails.	5 marks
	D) Explain the characteristics and requirements of different types of function catering, such as corporate events, weddings, and social gatherings.	5 marks
5.	A) Explain the opening and closing duties of bar staff.	5 marks
	B) Explain the concept of BFP in catering.	5 marks

**B.SC. IN PERFUSION TECHNOLOGY -VI SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**CLINICAL PERFUSION TECHNOLOGY**

**Q.P. Code:0114**

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 congenital heart diseases and add a short note of cyanotic spells.
2. Write the long essay on an anemia & its significance for perfusionist.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Compare obstructive and restrictive lung disease on pulmonary function test.
4. Write the short essay on aortic regurgitation
5. Write the short essay on ECG findings & cardiac enzymes in IHD
6. Clinical evaluation of peripheral vascular disease
7. Importance of physiological changes during pregnancy with respect to perfusionist

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Name any three rheumatic cardiac manifestations
9. Aortic aneurysm: classification, Diagnostic investigations
10. Pathophysiology of LV failure
11. End stage renal disease: management options
12. Define and classify DM

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**FOURTH SEMESTER - B.Sc. NUTRITION AND DIETETICS  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**DIET AND NUTRITION COUNSELING**

**Q.P. Code: 1126**

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 is diet counseling? Explain under following headings – meaning, significance, process and types.
2. Define psychology. Explain nature and scope.
3. Elaborate on psycho analytic approach to counseling.

**SHORT ESSAY QUESTIONS (Answer any EIGHT):**

**8 X 5 = 40**

4. Discuss in brief the process of counseling and explain 5 stages.
5. Discuss the components of diabetes education.
6. Discuss different types of learning
7. Explain different types of memory
8. Explain in brief the nature of personality
9. What are causes of forgetting? Explain in brief.
10. Explain in brief about attending and listening skills
11. Discuss the need for maternal nutrition counseling in our community
12. Discuss the role of dietitian in hospital setting

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

13. Define brainstorming
14. Define immediacy and confrontation
15. Define self disclosure
16. What is the treatment for hypoglycemia
17. What are ethical principles of counseling
18. What is the role of counselor & counselee
19. What are the steps in effective counseling using GALIDRAA technique
20. What are the common linguistics problems in clinical dietary practices
21. Define advanced empathy
22. Which of the traditional media methods commonly used for nutrition education

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**B.SC. MLTC, RADIOGRAPHY, ANAESTHESIA, PERFUSION, CARDIAC  
CARE, NEUROSCIENCE, RENAL DIALYSIS AND OPTOMETRYII  
SEMESTER – II SEMESTER – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 60**

**HAEMATOLOGY & CLINICAL PATHOLOGY- AND MICROBIOLOGY -II**

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 : HAEMATOLOGY & CLINICAL PATHOLOGY Q.P. CODE : 1909 [ 30 Marks]**

<b>Question Number</b>	<b>Marks</b>
<b>LONG ESSAY QUESTIONS (Answer any ONE):</b>	<b>1 X 10 = 10</b>
1. Discuss the principle, procedure and interpretation of indirect coomb's test.	
2. Enumerate the indications, preparation, equipments used and procedure for bone marrow aspiration and biopsy.	
<b>SHORT ESSAY QUESTIONS (Answer any TWO):</b>	<b>2 X 5 = 10</b>
3. Discuss the principle, procedure and interpretation of sickling tests.	
4. Discuss principle, procedure and interpretation of benedicts test.	
5. Enumerate different methods of detection of haemoglobin F. discuss any ONE.	
<b>SHORT ANSWER QUESTIONS (All are compulsory):</b>	<b>5 X 2 = 10</b>
6. Write preparation and uses of Buffy coat.	
7. Write general physical examination of semen analysis.	
8. Write the normal values for Vitamin B 12. Mention two causes for decrease in Vit B 12 levels.	
9. Enumerate the tests done to detect G-6 PD deficiency.	
10. Enumerate the tests done for diagnosis of Malarial parasite.	

**SECTION B : MICROBIOLOGY -II...Q.P. CODE : 1910 [ 30 Marks ]**

<b>Question Number</b>	<b>Marks</b>
<b>LONG ESSAY QUESTIONS (Answer any ONE):</b>	<b>1 X 10 = 10</b>
1. Classify immunity, explain acquired immunity in detail. Add a note on passive immunity.	(2+5+3)
2. Define antigen-antibody reactions. Enumerate various antigen-antibody reactions and write in detail the precipitation reaction with examples.	(2+3+5)
<b>SHORT ESSAY QUESTIONS (Answer any TWO):</b>	<b>2 X 5 = 10</b>
3. Describe structure and functions of IgG	
4. Discuss alternate complement pathway	
5. Describe the principle and applications of immunofluorescence test.	
<b>SHORT ANSWER QUESTIONS (All are compulsory):</b>	<b>5 X 2 = 10</b>
6. Enumerate types of ELISA	
7. Enumerate various types of culture methods	
8. Name TWO anaerobic culture methods	
9. What are selective media? Give TWO examples.	
10. Name TWO transport media and mention their uses.	

**B.Sc. IN MEDICAL LABORATORY TECHNOLOGY**

**IV SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**VIROLOGY**

**Q.P. Code:1965**

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. Classify arboviruses. Discuss the pathogenesis and laboratory diagnosis of dengue fever. (2+3+5)
2. Describe the pathogenesis and laboratory diagnosis of rabies. Add a note on its immunoprophylaxis. (3+4+3)
3. Discuss the structure and functions of bacteriophage. Add a note on phage typing. (3+4+3)

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5= 25**

4. Describe the pathogenesis and laboratory diagnosis of hepatitis –A virus infection.
5. Discuss MMR vaccine in detail.
6. Describe embryonated egg culture technique in detail with help of a diagram.
7. What is cytopathic effect? Describe any two of them in detail.
8. Discuss the laboratory diagnosis of SARS-CoV-2 infection.
9. Describe the laboratory diagnosis of HIV infection.

**SHORT ANSWER QUESTIONS(All are compulsory):**

**5X 3 = 15**

10. What are cowdry bodies? Explain them with help of a colored labelled diagram.
11. Draw a labelled diagram of bacteriophage.
12. Write any three universal safety precautions.
13. Define nosocomial infection. Name three common etiological agents.
14. Write the classification of herpes viruses.

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**B.SC. IN RADIOGRAPHY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**QUALITY CONTROL, RADIOBIOLOGY AND RADIATION SAFETY IN  
RADIODIAGNOSIS/ IMAGING**

**Q.P. Code:1968**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS:**

**2 X 10 = 20**

1. What are the biological effects of radiation? How will you organize radiation safety measures in X ray department?
2. What is gaseous radiation detector? Explain with a neat diagram about its characteristics.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Brief about timble ion chamber.
4. Radiation protection of staff, patient and public.
5. Mention the factors affecting radiographic image quality.
6. Benefits of QA procedures in an imaging department.
7. Note on structural shielding.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Stochastic and non stochastic effects.
9. Differences between pocket dosimeter vs TLD badge.
10. Sources of radiation.
11. Planning of X-ray.
12. Note on ICRP.

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**B.SC. IN ANESTHESIA TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED ANESTHESIA TECHNOLOGY-II**

**Q.P. Code:1971**

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 preparation for blood transfusion. List complication of blood transfusion.
2. Preparation of OT for debridement of foot under ankle block.
3. a) Classify local anaesthetic drugs  
b) Mechanism of action  
c) Note on Lignocaine hydro chloride

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Write a note on wrist block.
5. Discuss complication of supradavicular approach of brachial plexus block
6. Discuss a) Oxygen face mask  
b) Nasal prongs
7. Write a note on preparation of tray for regional block
8. Discuss fluid management under regional anaesthesia.
9. Femoral nerve block
  - a) Drug used
  - b) Indication & contraindication
  - c) Complication

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Blocks used for upper limb fracture.
11. Note on: a) Fentanyl b) Ketamine
12. Preparations of set used for popliteal block
13. Peripheral nerve stimulator.
14. Cleaning and disinfection of ultrasound machine after use.

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**B.SC. IN PERFUSION TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED PERFUSION TECHNOLOGY-II**

**Q.P. Code:1976**

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. How will address the following problems during termination of bypass
  - a) Hypotension
  - b) Hypothermia
  - c) High arterial line pressure
  - d) Low venous reservoir volume
  
2. Write the long essay on
  - a) Peripheral cannulation
  - b) Aortic cross clamping
  - c) Cardioplegia delivery
  - d) Venting during minimally invasive cardiac surgery

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Types size of venous cannula & their connection to the patient.
4. Write the short essay on any two recent advances in conduct of CPB.
5. Assessment & evaluation before use of counter pulsation device.
6. Draw and label IABP trace (1:2) augmentation.
7. Write the short essay associate with problems during heparin reversal.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Draw and label retrograde cardioplegia cannula
9. Heparin resistance
10. Draw extrinsic coagulation pathway
11. Complications of blood transfusion
12. Write the short answer on heparin & platelet interactions during CPB

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**B.S.C. IN CARDIAC CARE TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**CARDIAC CATHETERIZATION**

**Q.P. Code:1974**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS:**

**2 X 10 = 20**

1. Describe the procedure & material used in balloon mitral valvotomy
2. Right heart catheterization – indications, contraindications, procedure & complications.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. VSD device closure
4. Radiation hazards
5. Materials used in cathlab
6. Oxymetry & pressure recording
7. Electrophysiological study

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

8. Name three non-ionic contrast agents.
9. Contraindications for peripheral angiogram
10. CD recording & storage
11. Complications of balloon aortic valvotomy
12. Name 3 catheters used for left heart catheterisation

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**B.SC. IN NEUROSCIENCE TECHNOLOGY -IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED TECHNOLOGY IV: ELECTROMYOGRAPHY AND EVOKED POTENTIALS (BASIC)**

**Q.P. Code:1978**

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 methodology for performing brain stem auditory evoked response
2. Describe the methodology for performing somato sensory evoked potentials from posterior tibial nerve
3. Describe principles of electro myography

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

4. P 100
5. Write a note on qualitative electromyography
6. Myotonic discharges
7. Write a note on interference pattern.
8. Name the different types of electromyography.
9. Motor unit potential

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

10. Positive sharp waves
11. Averaging
12. Electro cardiogram
13. Single fibre Ema needle
14. Filter settings for VEP & BAER

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**B.SC. IN OPTOMETRY-IV SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**OPTOMETRIC INSTRUMENT AND CLINICAL EXAMINATION OF VISUAL SYSTEM**

**Q.P. Code:0132**

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 visual pathway and label the parts. Add a note various lesions in visual path way
2. Enumerate the differences between static dynamic retinoscopy add a note on subjective verification
3. Explain the principles of jack-son cross cylinder and its uses.

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

4. Duochrome test
5. Hess-screen chart its uses
6. Placid keratometry
7. Discuss various types of illumination used in slit lamp
8. Write a note on abnormal papillary reaction
9. 3 mirror gonioscopy

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

10. Schirmer test
11. Ansler grid chart
12. B-scan biometry
13. Rose-bengal test
14. Pin-hole plate

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**B.S.C. RENAL DIALYSIS TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**BASICS IN RENAL DIALYSIS TECHNOLOGY**

**Q.P. Code:0121**

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 label and explain the hemodialysis circuit.
2. Classify dialyzer types and membranes. Define and detail the following dialyzer specifications with examples: KUF, urea clearance, KOA and priming volume.

**SHORT ESSAY QUESTIONS:**

**5 X 5 = 25**

3. Discuss different types of vascular access for haemodialysis
4. Discuss common complications of haemodialysis
5. Discuss indication of dialysis
6. What are dialyzer reactions?
7. Causes of hypotension during HD.

**SHORT ANSWER QUESTIONS (Answer any THREE):**

**3 X 5 = 15**

8. First use syndrome
9. Tests for dialyzer performance after reuse
10. Alarms in the hemodialysis circuit.
11. Write the advantages and disadvantages of arterio venous fistula
12. Define diffusion and osmosis with diagrams

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**B.SC. IN CRITICAL CARE TECHNOLOGY-IV SEMESTER**

**JULY 2023**

Time: 3 Hours

Max. Marks: 60

**BASICS OF INTENSIVE CARE TECHNOLOGY PART-III**

**Q.P. Code:1130**

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

**Question Number**

**Marks**

**LONG ESSAY QUESTIONS (Answer any TWO):**

**2 X 10 = 20**

1. Discuss general supportive care for management of patient with poisoning.
2. Pancreatitis - causes ,clinical features , management in brief
3. Hepatic Encephalopathy - causes ,clinical features, management in brief.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Outline management of snake bite
5. Mention investigations required for evaluation of COMA/ ENCEPHALOPATHY.
6. Discuss in brief Gastric Lavage.
7. Various causes for hypoglycemia in ICU
8. Manual in line stabilization of cervical spine technique.
9. Discuss drugs used in treatment of Ischemic stroke.

**SHORT ANSWER QUESTIONS:**

**5 X 3 = 15**

10. Non - Absorbable antibiotics.
11. Define Brain Death.
12. Few causes of Haemorrhagic stroke.
13. Gastric lavage indication.
14. Various causes of thrombocytopenia.

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**B.Sc. IN MEDICAL LABORATORY TECHNOLOGY**

**VI SEMESTER – JULY 2023**

Time: 3 Hours

Max. Marks: 60

**CLINICAL PATHOLOGY-VI**

**Q.P. Code:0103**

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 chromosome preparation from bone marrow sample
2. Discuss the lab investigation with interpretation in a case of suspected transfusion reaction
3. Discuss the general consideration for setting up of blood bank

**SHORT ESSAY QUESTIONS (Answer any Five):**

**5 X 5 = 25**

4. Discuss the procedure of indirect coomb's test
5. Discuss cross matching by matrix gel system
6. Discuss donor selection
7. Discuss bars body analysis in buccal smears
8. Discuss aneuploidy
9. Discuss procedure of G banding

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Discuss importance of chromosomal studies
11. Write a note on CPD-SAG
12. Mention the uses of documentation and record maintenance in blood bank
13. Mention advantages of hemapheresis
14. Discuss SDP

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**B.SC. IN ANESTHESIA TECHNOLOGY -IV SEMESTER JULY 2023**

Time: 3 Hours

Max. Marks: 60

**APPLIED ANAESTHESIA TECHNOLOGY-III**

**Q.P. Code:0106**

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 complications related to positioning during anaesthesia.
2. Arrangement of OT for Renal transplant.
3. Define anaphylaxis and its management.

**SHORT ESSAY QUESTIONS (Answer any FIVE):**

**5 X 5 = 25**

4. Sedation in ICU.
5. Discuss reversible cause of 5H and 5Ts of cardiac arrest.
6. Note on blood transfusion.
7. Occupational hazard in operation room.
8. Discuss triage, critique its importance.
9. Preparation of OT for arterial line.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**5 X 3 = 15**

10. Cardioplegia.
11. Management of Bradycardia.
12. CPAP.
13. Adverse drug effect.
14. Define hypoxia. Discuss the use of oxygen face mask.

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**SECOND SEMESTER - B.Sc. NUTRITION AND DIETETICS  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**NUTRITION IN THE LIFE CYCLE-I**

**Q.P. Code: 0141**

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 advantages of breast feeding, explain how it benefits the mother.
2. Explain the nutritional requirements of Pre-school children (1-6 years). Write a note on nutritional concerns.
3. Plan a recipe for low & high socioeconomic status pregnant women. Justify the planned recipe.

**SHORT ESSAY QUESTIONS (Answer any EIGHT):**

**8 X 5 = 40**

4. Briefly write a note on ICDS programme.
5. Briefly write a note on important nutrients required for a pregnant women also explain their function.
6. Write a note on RDA for lactating mother.
7. Write a note on growth and development in pre-school children.
8. Write a note on anemia during pregnancy.
9. Write a short note on Gestational diabetes.
10. Write a note on PEM.
11. Explain the effect of Nutritional status on outcome of pregnancy.
12. Explain physiological changes during pregnancy & lactation.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

13. What is the full form of RDA?
14. Give 4 advantages of breast feeding.
15. What is colostrum?
16. Give 4 reasons why breast milk is best milk.
17. What is the importance of additional protein during pregnancy.
18. Importance of folic acid during pregnancy.
19. Name 4 complications during pregnancy.
20. Define low birth weight baby and Pre-Term baby.
21. Define Picky eating, give examples.
22. Define spina bifida.

**SECOND SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**INTRODUCTION TO COMMUNICABLE AND NON-COMMUNICABLE DISEASES**

**Q.P. Code:1857**

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. Discuss in detail about MDR-Tuberculosis-causes, diagnosis and prevention/control measures in India.
2. Classify & discuss risk factors for essential hypertension. Add a note on tracking of hypertension.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Explain self-care in Diabetes Mellitus at community level.
4. Describe briefly Vaccination for elderly population.
5. Define BMI and its classification. Enumerate the complications due to Obesity.
6. Describe targeted interventions for zero transmission of HIV/AIDS in various high risk groups.
7. Discuss prevention and control of Acute diarrhoea among under five children.
8. Discuss briefly integrated vector control for Malaria. Add a note on insecticide resistance.
9. Discuss infection control measures for Covid-19.
10. Describe epidemiology, clinical features, prevention and control of measles in India.

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Mention the schedule of DPT vaccination & doses / route for under five year children in India.
12. Define endemic with a suitable example.
13. Define Herd immunity with a suitable example.
14. Mention components of 'WHO ORS'.
15. Enlist any four preventive methods for Burns injury.
16. Mention any four water borne diseases in India.
17. Mention preventive measures for filariasis.
18. Mention pre-exposure prophylaxis for human rabies.
19. Mention briefly about JE Vaccination in India.
20. Enlist preventive measures for stroke/paralysis.

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**FOURTH SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**DISASTER AND EMERGENCY MANAGEMENT**

**Q.P. Code: 1864**

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 Diaster. Classify different types of disasters using examples that have occurred in last 100 years.
2. Discuss in detail about the disaster management measures to be taken before, during and after occurrence of cyclone in western coast of India.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Discuss the role of triage in a multi-storey building collapse.
4. Discuss hazard mapping in earthquake with an example.
5. Explain diaster preparedness for Avalanche in Himalaya area.
6. Discuss salient features of National Disaster management act.
7. Discuss post disaster disease surveillance.
8. Describe steps to be taken for women and children in coastal areas after a Tsunami disaster.
9. Describe emergency food supply to vulnerable population during mass disaster.
10. Discuss the guiding principles of disaster mitigation.

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

11. Enlist colour codes used in emergency triage system.
12. Role of Radio in communication for mass disaster.
13. Define hazard and mention any one suitable example.
14. Care of dead bodies after disaster enlist measures.
15. Explain briefly role of vaccination after disaster.
16. Enlist functions of International Federation of red cross societies during mass disasters.
17. Enlist any four united Nations agencies working for disaster.
18. Mention measures for control of faeco-oral diseases after massive floods in an urban area.
19. Mention any four health hazards of valcano eruption.
20. Mention building code rules in earthquake zone.

**SECOND SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023****Time: 3 Hours****Max. Marks: 70****FUNDAMENTALS OF FRONT OFFICE - II****Q.P. CODE: 1827**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

**Question Number****Marks**

- |    |    |  |         |
|----|----|--|---------|
| 1. | A) | What are some potential problems that can arise during the check-out process?  | 2 marks |
|    | B) | Why is it important to keep a log book in a hotel?   | 3 marks |
|    | C) | What is front office accounting and how does it differ from other accounting functions within a hotel? What is the front office accounting cycle and how does it work? | 5 marks |
|    | D) | What is fire safety and why is it important in a hotel setting?  | 5 marks |
| 2. | A) | What is the night audit process?   | 2 marks |
|    | B) | What are some benefits of yield management for hotels?   | 3 marks |
|    | C) | How can front desk staff assist in promoting fire safety and responding to emergencies?  | 5 marks |
|    | D) | How do guests evaluate hotels and what factors influence their opinions? What steps can hotels take to improve guest satisfaction and loyalty?                         | 5 marks |
| 3. | A) | What is the importance of first aid training for hotel staff?  | 2 marks |
|    | B) | What is the difference between revenue management and yield management?  | 3 marks |
|    | C) | How can hotels prevent check-out problems, such as billing disputes and lost items?  | 5 marks |
|    | D) | How can hotels promote fire safety and prevent accidents within the property?  | 5 marks |
| 4. | A) | How do you handle a guest who is in a drunken state?   | 2 marks |
|    | B) | How can you evaluate the success of a yield management strategy?   | 3 marks |
|    | C) | How can you hotels prevent check-out problems such as billing disputes & lost items?   | 5 marks |
|    | D) | What are the various guest services offered by hotels, and how do they contribute to guest satisfaction?   | 5 marks |
| 5. | A) | What are the key methods for handling unusual events and emergency situations in hotels?   | 5 marks |
|    | B) | What are the key strategies for preventing and responding to terrorist activities in hotels?   | 5 marks |

**FOURTH SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 70**

**FRONT OFFICE OPERATIONS**

**Q.P. CODE: 1831**

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

**Question Number**

**Marks**

- |    |    |  |         |
|----|----|--|---------|
| 1. | A) | What are the key steps involved in the check-out and settlement process in a hotel?  | 2 marks |
|    | B) | What are the functions of the front office audit in a hotel?   | 3 marks |
|    | C) | Explain the concept of room status updates in a property management system.  | 5 marks |
|    | D) | Explain the check-out and settlement process in a hotel, including the key steps involved.   | 5 marks |
|    | D) | How are unpaid account balances handled in hotel operations, and what are the procedures for account collection?                             | 5 marks |
| 2. | A) | What is transactional analysis and how does it apply to conflict management in the front office?   | 2 marks |
|    | B) | How can a property management system assist in managing guest preferences and requests?  | 3 marks |
|    | C) | Explain the concept of accounts in front office accounting and their significance in tracking guest transactions.                            | 5 marks |
|    | D) | Explain the importance of points of sale in front office accounting and their impact on revenue tracking.                                    | 5 marks |
| 3. | A) | What is the guest accounting module in a property management system and how does it support front office operations?                         | 2 marks |
|    | B) | What are the key factors to consider when selecting a property management system for a hotel?  | 3 marks |
|    | C) | Describe the settlement of accounts in front office accounting, including the procedures involved.   | 5 marks |
|    | D) | What are the functions of the front office audit in a hotel, and how do they contribute to financial control?                                | 5 marks |
| 4. | A) | What are the challenges and considerations in implementing and integrating hospitality technology systems?                                   | 2 marks |
|    | B) | Explain the future trends and advancements expected in hospitality technology systems and their potential impact on front office operations. | 3 marks |
|    | C) | Explain the Johari window model and its relevance to communication and conflict resolution in the front office.                              | 5 marks |
|    | D) | Explain the role of data analytics in front office planning and decision-making.   | 5 marks |
| 5. | A) | How can front office operations utilize technology systems to improve guest satisfaction and service delivery?                               | 5 marks |
|    | B) | Describe the role of customer relationship management (CRM) systems in front office operations and guest relationship management.            | 5 marks |

**SIXTH SEMESTER B.SC. IN HOTEL MANAGEMENT & CATERING TECHNOLOGY  
DEGREE EXAMINATION – JULY 2023****Time: 3 Hours****Max. Marks: 70****FRONT OFFICE MANAGEMENT-II****Q.P. CODE: 1839**

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

**Question Number****Marks**

1.
  - A) What is yield management? 2 marks
  - B) What are some popular yield management software tools used in the industry? 3 marks
  - C) How does duration control play a role in yield management? Discuss its impact on revenue optimization and customer satisfaction. 5 marks
  - D) Discuss the major difficulties faced in marketing a timeshare business. How can these challenges be overcome to attract potential buyers? 5 marks
  
2.
  - A) What is time share marketing? 2 marks
  - B) Describe the process of providing information to guests about the hotel's amenities, city attractions, sightseeing options, car rentals, historical places, banks, airlines, travel agents, shopping centers, and worship places. 3 marks
  - C) How can effective communication and rapport-building skills contribute to a positive guest experience? 5 marks
  - D) Analyze the impact of technology and travel aggregators (e.g., OYO, Trivago, Airbnb, Goibibo, MakeMyTrip, Thomas Cook, Expedia, Yatra, Cleartrip, VIA, Booking.com) on the hospitality industry. 5 marks
  
3.
  - A) What are the key components of a night audit report? 2 marks
  - B) Explain the challenges and considerations for implementing yield management in small hotels or guesthouses. 3 marks
  - C) Compare and contrast yield management and revenue management in the hospitality industry. How do these concepts complement each other in optimizing revenue? 5 marks
  - D) Identify and discuss the challenges and considerations in implementing yield management in small hotels or guesthouses. 5 marks
  
4.
  - A) What strategies can be used to handle a language barrier when conversing with international guests? 2 marks
  - B) How can a hotel enhance the efficiency and effectiveness of its departures process through staff coordination? 3 marks
  - C) Explain the concept of internal exchanges in timeshare. Discuss the benefits and challenges associated with internal exchanges for timeshare owners. 5 marks
  - D) How do online travel agencies contribute to the marketing and promotion of timeshare properties? 5 marks
  
5.
  - A) How can hotels overcome language barriers when conversing with international guests? 5 marks
  - B) Describe the coordination and collaboration required among the cashier, bills section, and bell desk for an efficient departure process. 5 marks

**FOURTH SEMESTER - B.Sc. NUTRITION AND DIETETICS  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**FUNDAMENTALS OF FOOD MICROBIOLOGY**

**Q.P. Code: 1127**

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 the extrinsic parameters affecting microbial growth
2. Define food microbiology. Add a note on history and major development of food microbiology.
3. Explain the sources of infection, symptoms, clinical features, pathogenesis, diagnosis, treatment and prevention of cholera

**SHORT ESSAY QUESTIONS (Answer any EIGHT):**

**8 X 5 = 40**

4. Classify bacteria depending on their morphology
5. Write a note on food borne parasites
6. Write a note on sea food toxicants
7. Write a note on beneficial effects of micro-organisms
8. Write a note on pathogenesis of botulism
9. Write a note on economically important fermented food products.
10. List four important factors that are involved in meat spoilage.
11. Write a note on aflatoxins.
12. Role of Microorganisms in fermentation

**SHORT ANSWER QUESTIONS (All are compulsory):**

**10 X 2 = 20**

13. What are the uses of electron microscope
14. What is continuous culture
15. What is water activity W.R.F. microbial growth?
16. Define food fermentation
17. What is microbial mass
18. Give two examples for organism causing food borne toxic infections.
19. Enlist the various mycotoxins
20. What is sauerkraut
21. Name some fermented products of Indian origin.
22. Enlist difference between food infection & food intoxication

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**SECOND SEMESTER – BACHELOR OF PUBLIC HEALTH  
BACHELOR OF PUBLIC HEALTH (HONS)  
DEGREE EXAMINATION – JULY 2023**

Time: 3 Hours

Max. Marks: 80

**INTRODUCTION TO PUBLIC HEALTH NUTRITION**

**Q.P. Code:1858**

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. Enumerate various National Nutritional Programmes of India. Discuss in detail about objectives and implementation of Rashtriya Poshan Abhiyan / National Nutrition Programme. (2+8)
2. Enlist milk borne diseases. Discuss in detail about their prevention and control. Add a note on milk hygiene.

**SHORT ESSAY QUESTIONS:**

**8 X 5 = 40**

3. Discuss briefly about diet/feeding of infants.
4. Discuss briefly about causes, clinical features and prevention of vitamin-B12 deficiency.
5. Discuss briefly about mid day meal in schools.
6. Describe food pyramid and its importance in public health.
7. Enumerate food toxicants. Discuss about lathyrism.
8. Discuss briefly nutritional problems of adolescent age group and their prevention.
9. Discuss the interaction between malnutrition and infections with suitable examples in public health.
10. Describe the causes and clinical features of Kwashiorkor.

**SHORT ANSWER QUESTIONS:**

**10 X 2 = 20**

11. Mention briefly the role of cholesterol in Cardio Vascular diseases.
12. Mention any four functions of carbohydrates in human body.
13. Define food fortification with a suitable example.
14. Define Reference Indian Man as per ICMR guidelines.
15. Mention various sources of dietary iron.
16. Mention any four low cost weaning foods suitable for under five children in south India.
17. Define Net Protein Utilization (NPU).
18. Mention clinical features of cretinism in a child.
19. Mention the Nutritive Value of mid day meal supplied to 3-6 years children attending Anganwadi under ICDS.
20. Mention the role of Zinc as mineral in human body.

**SECOND SEMESTER B.Sc. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 70**

**FUNDAMENTALS OF HOUSE KEEPING**

**Q.P. CODE: 1828**

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

**Question Number**

**Marks**

- |    |    |   |         |
|----|----|---|---------|
| 1. | A) | What are the key aspects to consider in planning on-premise laundry operations?   | 2 marks |
|    | B) | Describe the linen cycle within an on-premise laundry.  | 3 marks |
|    | C) | How does planning contribute to the efficient operation of an on-premise laundry facility?                                  | 5 marks |
|    | D) | Describe the different bed-types and pillow-types commonly found in hotels.   | 5 marks |
| 2. | A) | What is meant by par levels in inventory management?  | 2 marks |
|    | B) | Differentiate between consumable, renewable, and capital inventory.   | 3 marks |
|    | C) | Explain the purpose and importance of a lost and found register in the hotel industry.                                      | 5 marks |
|    | D) | How does effective planning contribute to the success of an on-premise laundry facility in a hotel?                         | 5 marks |
| 3. | A) | What are OSHA regulations, and how do they relate to hotel operations?  | 2 marks |
|    | B) | What are the strategies for water conservation in a hotel?  | 3 marks |
|    | C) | Describe the concept of par levels and their significance in managing inventories effectively.                              | 5 marks |
|    | D) | Explain the roles and responsibilities of hotel security staff and the systems they utilize.                                | 5 marks |
| 4. | A) | What are productivity standards, and how are they measured in housekeeping?   | 2 marks |
|    | B) | Describe the process of managing guest loan items in a hotel.   | 3 marks |
|    | C) | Explain OSHA's Hazardous Communication Standard and its relevance to the hospitality industry.                              | 5 marks |
|    | D) | Explain the principles of sustainability and green philosophies in the context of the hospitality industry.                 | 5 marks |
| 5. | A) | Explain the roles and responsibilities of the executive housekeeper in coordinating, staffing, and managing the department. | 5 marks |
|    | B) | Explain the concept of valet service in the hotel laundry operations and its importance                                     | 5 marks |

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**FOURTH SEMESTER B.Sc. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023****Time: 3 Hours****Max. Marks: 70****ACCOMMODATION OPERATIONS****Q.P. CODE: 1832**

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

<b>Question Number</b>		<b>Marks</b>
1	A) Describe different types of color schemes commonly used in interior decoration and their visual effects.	2 marks
	B) Explain the importance of a well-defined area inventory list in housekeeping and its role in efficient inventory management.	3 marks
	C) Describe the significance of a duty roster in housekeeping and how it helps allocate tasks and manage staff schedules effectively.	5 marks
	D) Explain the importance of wall and floor coverings in hotel interiors and their role in creating a cohesive design.	5 marks
2	A) What is colour wheel?	2 marks
	B) Explain the process of selecting wall and floor coverings for hotel spaces, considering factors such as durability and aesthetics.	3 marks
	C) What are the current trends in wall and floor coverings in the hospitality industry and their impact on hotel design.	5 marks
	D) Explain the process of selecting furniture for hotel spaces, considering factors such as style, durability, and ergonomics.	5 marks
3	A) What is colour scheme?	2 marks
	B) State the current trends in furniture design in the hospitality industry and their influence on hotel interiors.	3 marks
	C) Explain the cleaning procedures for different types of furniture and soft furnishings in hotel rooms and public areas.	5 marks
	D) Explain the principles of space management in hotel room design and how they contribute to guest comfort and functionality?	5 marks
4	A) Explain the role of textures and patterns in interior decoration and how they can add visual interest and depth to hotel spaces	2 marks
	B) Explain the concept of amenities in hotel room design and their role in meeting guest expectations.	3 marks
	C) Explain the importance of amenities in modern hotel room aesthetics and their role in enhancing guest experiences.	5 marks
	D) State the emerging trends in interior decoration for hotels and their impact on guest experiences.	5 marks
5	A) Explain the concept of focal points in interior decoration and how they draw attention and create visual impact.	5 marks
	B) Explain the concept of emphasis and how it helps highlight key design features in hotel interiors	5 marks

**SIXTH SEMESTER B.Sc. IN HOTEL MANAGEMENT & CATERING  
TECHNOLOGY DEGREE EXAMINATION – JULY 2023**

**Time: 3 Hours**

**Max. Marks: 70**

**ACCOMMODATION MANAGEMENT-II**

**Q.P. CODE: 1840**

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

**Question Number**

**Marks**

1.
  - A) What is safety awareness in the context of the hospitality industry? 2 marks
  - B) How can technology be utilized to enhance safety and security in hotels? 3 marks
  - C) How can hotels effectively communicate safety procedures and protocols to guests and employees? 5 marks
  - D) How can hotels incorporate sustainable design practices and eco-friendly materials in their interior decoration? 5 marks
  
2.
  - A) Explain the role of color in décor and its impact on the overall ambiance. 2 marks
  - B) State the importance of lighting and lighting fixtures in creating a desired ambiance in hotel spaces. 3 marks
  - C) Explain the current trends in hospitality interior decoration and their impact on guest experience and satisfaction. 5 marks
  - D) How can hotels create accessible and inclusive guest rooms to cater to guests with disabilities or special needs? 5 marks
  
3.
  - A) What factors should be considered when determining the sizes of guest rooms? 2 marks
  - B) Explain the concept of sustainable design in interior decoration and its relevance to the hospitality industry. 3 marks
  - C) Explain the integration of technology and smart design features in guest room layouts to enhance guest experience. 5 marks
  - D) Explain the standard operating procedure for a new property countdown in the hospitality industry, highlighting key milestones and activities. 5 marks
  
4.
  - A) What are the key elements to consider when planning with time split for special decorations? 2 marks
  - B) Discuss the factors to consider when determining the sizes of guest rooms in a hotel. 3 marks
  - C) Discuss the benefits of conducting housekeeping field visits to hospitals, schools, malls, and catering companies during the new property countdown. 5 marks
  - D) How can hotels leverage special decorations to create memorable experiences and differentiate themselves in a competitive market? 5 marks
  
5.
  - A) Evaluate the importance of fire safety and firefighting measures during the new property countdown and their impact on guest safety. 5 marks
  - B) Explain the protocols and procedures for handling emergency situations in the hospitality industry. 5 marks