

**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**MEDICAL LABORATORY TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3101**  
**BIOCHEMISTRY**

**I Long Essay — answer any TWO**

**2x10=20**

1. Describe Principle, different types and applications of Chromatography (2+3+5=10)
2. Describe renal functions tests. Add a note on normal values of all parameters of Renal Function Test (7+3=10)
3. Define Glycolysis. Explain the step of Glycolysis and add a note on its energetic. (2+6+2=10)

**II Write short notes on any TEN**

**10x5 = 50**

4. Regulation of blood glucose
5. Ion Selective Electrodes (ISE)
6. Digestion and Absorption of proteins
7. Electrophoresis techniques and its application in Clinical laboratory
8. Sources of Ammonia and Formation Urea
9. Automation in laboratory
10. Normal constituents of urine
11. Radio Immuno Assay principles and application
12. External quality control
13. Creatinine synthesis, excretion and normal serum values
14. ELISA principles and application
15. Urea and creatinine clearance tests

**III Write short answers**

**10 x 2 = 20**

16. Name electrolytes and their normal values.
17. Name Ketone bodies
18. Rothera's test
19. Name two Cardiac markers
20. Photo electric colorimeter.
21. Metabolic acidosis.
22. Plasma proteins.
23. Name two enzymes involved in digestion of carbohydrates
24. Write two differences between plasma and serum.
25. Record keeping in Laboratory

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**HEALTH INSPECTOR**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3111**  
**PAPER I**

**I. Long Essay - Answer any TWO**

**2 X 10 = 20**

1. What is Primary Health Care? Write a note on elements of Primary Health Care.
2. What is the role of Carbohydrates in Diet? List sources rich in carbohydrates.
3. What are the risk factors for Diabetes? Discuss the role of exercise in Diabetes Control?

**II. Write short notes on any TEN**

**10 X 5 = 50**

4. Pulse polio immunization.
5. Preventive measures to control Mosquito breeding
6. Healthcare waste hazards
7. Dimensions of Health
8. Transportation facilities in hospital
9. Incineration
10. Epidemiological Triad
11. Infant Mortality Rate
12. Joint family
13. Sanitation barrier
14. Sources of Vitamin A
15. Disaster preparedness

**III. Write short answers**

**10 X 2 = 20**

16. BCG vaccine
17. Paramedical worker
18. Sanitary latrine
19. Housefly
20. Functions of Blood Bank
21. Condom
22. Aedes mosquito control
23. Janani Suraksha Yojana
24. Growth Chart
25. Iodine deficiency disorder

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**MEDICAL X-RAY TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3121**

**RADIOGRAPHY INCLUDING RADIOLOGY PHYSICS (N.S) R-1**

**I LONG ESSAY- ANSWER ANY TWO**

**2X10=20**

- 1) Explain fluoroscopy and image intensifiers?
- 2) Basic principle of X-rays and its properties?
- 3) Write about X-ray generators?

**II. WRITE SHORT NOTES ON ANY TEN**

**10X5=50**

- 4) Collimation.
- 5) Factors affecting radiographic films.
- 6) Three phase generators.
- 7) Anode heating effect.
- 8) Grids.
- 9) Fixers.
- 10) Fundamentals of photographic process.
- 11) Fluoroscopy.
- 12) Mammography.
- 13) Intensifying screens.
- 14) Exposure factors.
- 15) Isotopes.
- 16) Ultrasound.

**III. WRITE SHORT ANSWERS**

**10x2=20**

- 17) Picture Archiving and Communication System (PACS).
- 18) Clinical history.
- 19) Bucky.
- 20) Half wave rectifier.
- 21) Atomic number.
- 22) Resistors.
- 23) Electric current.
- 24) Fleming's right hand rule.
- 25) Voltage.
- 26) Magnets.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**OPERATION THEATER TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3131**  
**ANAESTHESIA & ALLIED TOPICS**

**I. ANSWER ANY TWO**

**2X10=20**

- 1) Enumerate different types of intravenous induction agents. Describe in detail about propofol. (4 + 6).
- 2) Describe preanaesthesia check list. How do you premedicate a patient aged 40yrs who is posted for laproscopic cholecystectomy. (5 + 5)
- 3) Classify muscle relaxants. Write in details about suxamethonium (scoline). (4 + 6)

**II. WRITE SHORT NOTES ON ANY TEN**

**10X5=50**

- 4) Epidural anaesthesia.
- 5) Basic life support. ( BLS).
- 6) Anaesthesia related occupational hazard & prevention.
- 7) Morphine.
- 8) Induced hypotention.
- 9) Bain circuit.
- 10) Medico-legal aspects of anaesthesia.
- 11) Induced hypothermia.
- 12) Bupivacaine.
- 13) Anti arrhythmic drugs.
- 14) Fentanyl.
- 15) Blood transfusion reactions.

**III. WRITE SHORT ANSWERS**

**10X2=20**

- 16) Magill's forceps.
- 17) Inform written consent.
- 18) Laryngoscope.
- 19) Ephedrine.
- 20) Patient safety programme.
- 21) Spinal needles.
- 22) Neostigmine.
- 23) Endotracheal tubes.
- 24) Crystalloids.
- 25) Sevoflurane.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**MEDICAL RECORDS TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3141**  
**MEDICAL TERMINOLOGY**

**I) Answer the Following.**

**3x5=15**

1. What are the elements of medical terms
2. What are the objectives of medical terminology?
3. Name the five commonly used eponyms
4. Name the bones of the upper arm
5. Define medical terminology and its purpose

**II) Give the Meaning for the following Suffixes**

**1 x 10=10**

- |             |             |
|-------------|-------------|
| 1. - itis   | 6. - desis  |
| 2. - osis   | 7. - ectomy |
| 3. - iasis  | 8. - oid    |
| 4. - oma    | 9. - megaly |
| 5. - ecasis | 10. - lysis |

**III) Write the meaning of the following phobias**

**1x10=10**

- |                |                 |
|----------------|-----------------|
| 1) Hygrophobia | 6) Nyctophobia  |
| 2) Lalophobia  | 7) Phenophobia  |
| 3) Bathophobia | 8) Thantophobia |
| 4) Cenophobia  | 9) Mysophobia   |
| 5) Autophobia  | 10) Ponophobia  |

**IV) Give the meaning for the following prefixes**

**1x10=10**

- |           |         |
|-----------|---------|
| a. Hyper  | f. Sub  |
| b. Ab     | g. Pro  |
| c. Contra | h. Syn  |
| d. Bi     | i. Hemi |
| e. Epi    | j. Para |

**V) Give the Meaning for the following**

**1x5=5**

- 1) Deca
- 2) Octo
- 3) Primus
- 4) Quadri
- 5) Centi

**P.T.O**

**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**Q P CODE 3141 MEDICAL TERMINOLOGY**

**VI. MATCH THE FOLLOWING**

**1x5=05**

- |           |        |
|-----------|--------|
| 1) Ruber  | Black  |
| 2) Niger  | White  |
| 3) Aureus | Yellow |
| 4) Leukos | Golden |
| 5) Flavus | Red    |

**VII. WRITE THE CORRECT MEANING OF MEDICAL TERMS**

**1X10=10**

- |                 |                  |
|-----------------|------------------|
| 1. Herniotomy   | 6. Stridor       |
| 2. Endocarditis | 7. Gastrectomy   |
| 3. Myorrhaphy   | 8. Leukopenia    |
| 4. Arthritis    | 9. Chondroma     |
| 5. Anorexia     | 10. Splenomegaly |

**VIII. WRITE THE MEANING OF THE FOLLOWING ROOTS**

**1x5=05**

1. Dacry
2. Cephal
3. Enter
4. Aden
5. Blepher

**IX. WRITE THE CORRCET MEDICAL TERMS**

**1X10=10**

- 1) Organic loss of intellectual function
- 2) Incision into ureter for removal of calculi
- 3) Surgical fixation of the urethra
- 4) White patches of skin due to local absence of pigment
- 5) Enlarged herniated swollen veins near the testicle
- 6) Tumor of the liver
- 7) Plastic repair of renal pelvis
- 8) Absence of menstruation
- 9) Peritonsillar abscess
- 10) Inflammation of the testis

**X. EXPAND THE FOLLOWING ABBREVIATIONS**

**1X10=10**

- |         |         |
|---------|---------|
| 1. PPRP | 6. TVH  |
| 2. SLE  | 7. RHD  |
| 3. SDH  | 8. UTI  |
| 4. FTND | 9. PPBS |
| 5. PIVD | 10.CPD  |

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**

**DIALYSIS TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3151**

**FUNDEMANNTALS OF HEMODIALYSIS AND COMPONENTS**

**I) LONG ESSAYS (ANY TWO)**

**2X10=20**

1. Discuss management of neurological complications in dialysis patients.
2. Discuss monitoring protocols regarding
  - a) dialysate composition,
  - b) hemodialysis machine function
  - c) patient safety and
  - d) safety of health care persons
3. Discuss clinical and biochemical parameters to assess dialysis adequacy

**II) WRITE SHORT NOTES (ANY TEN)**

**10X5=50**

4. Catheter associated bloodstream infection
5. Discuss 'rule of sixes' for Arterio Venous fistula maturation
6. Discuss care of tunnelled venous catheters. Add a note on catheter locks
7. Cannulation of new Arterio Venous fistula and Arterio Venous graft
8. Blood loss during dialysis
9. Daily dialysis
10. Central vein stenosis
11. Intradialytic hypertension
12. Sudden Cardiac Death
13. Advantages and disadvantages of dialyser reuse
14. Dialyser reactions
15. Indications and benefits of Sodium modelling during dialysis

**III) WRITE SHORT ANSWERS**

**10X2=20**

16. Activated clotting time
17. Two causes of Chronic kidney Disease.
18. Two types of dialyzer membrane materials
19. Two vaccines recommended for dialysis patients
20. Two oral antidiabetic drugs
21. Two indications to stop hemodialysis
22. Dialytic management of hypercalcemia
23. Two causes of chest pain during dialysis
24. Signs of clotting in the extracorporeal circuit
25. Name two uremic toxins

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**OPHTHALMIC TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 3161**

**PAPER I**

**Your answers should be specific to the questions asked Draw neat  
labeled diagrams wherever necessary**

**1. LONG ESSAYS (Answer any two)**

**2 x 10 = 20**

1. How to prepare a patient for cataract surgery
2. Define chalazion ,steps of chalzion surgery
3. How to maintain Tonometers

**2. SHORT ESSAYS.(Answer any ten)**

**10 x 5 =50**

4. Uses of lensometer
5. How to Sterlize ophthalmic OT instruments
6. How to give sub-conjunctival injection
7. How to differentiat drops from ointments
8. Post operative instructions after cataract surgery
9. What is Focimeter. add a brief note on it
10. Surgical instruments used in Cataract surgery.
11. How to maintain contact lenses
12. Advantage of Indirect ophthalmoscope over Direct ophthalmoscope.
13. How to maintain & calibrate keratometer
14. Instruments required for squint surgery
15. Note on Autoclaving

**3. WRITE SHORT ANSWERS.**

**10 x 2 =20**

- 16 Mention two types of Entropion
- 17 How to do ocular bandaging of eyes
- 18 Two indications for giving Sub- conjunctival injection
- 19 Contact lens in keratoconous
- 20 How to cut lashes
- 2i Two types of keratometers
- 22 Advantage of Executive bifocals
- 23 Indications for doing Epilation
- 24 Mention two Entropion surgeries
- 25 With movement of glow at pupillary area when retinoscopy done at 1.5 meter

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**DENTAL MECHANICS**

**TIME 1.1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE — 3171**  
**COMPLETE DENTURES**

**I. LONG ESSAY**

**1 X 10 =10**

1. Explain in detail about the articulators.

**II. WRITE SHORT NOTES**

**5 X 5 =25**

2. Compression mould technique
3. Dental cast
4. Repair of fractured acrylic dentures
5. Relining and rebasing of acrylic dentures
6. Immediate dentures

**III. WRITE SHORT ANSWERS**

**5 X 2 =10**

7. Cold mould seal
8. Anatomic teeth
9. Festooning
10. Curve of Wilson
11. Acrylic denture teeth

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**DENTAL HYGIENE**

**TIME 1.1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE — 3181**  
**DENTAL HYGIENE & ORAL PROPHYLAXIS**

**1. LONG ESSAY**

**1X10=10**

1. Define dental plaque. Describe the various steps of plaque formation.

**II. WRITE SHORT NOTES**

**5X5=25**

2. Difference between gingival pocket and periodontal pocket
3. Define dental hygiene and objectives of dental hygiene.
4. Interdental cleansing aids.
5. Stages of gingival inflammation.
6. Brief account of oral cancer.

**III. WRITE SHORT ANSWERS**

**5x 2=10**

7. Periodontal abscess.
8. Periodontal probes.
9. Home care instructions.
10. Different types of dental stains.
11. Uses of plaque disclosing agents.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**

**CERTIFICATE COURSE**

**TIME 1.1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE — 1101**  
**PHYSICS**

**I. LONG ESSAY- ANSWER ANY ONE**

**10X1=10**

- 1) What is Radioactivity? Explain the properties of Alpha, Beta & Gamma rays.
- 2) Explain the properties of sound? Mention the uses of thermal radiations.

**II WRITE SHORT NOTES ON ANY FIVE**

**5X5=25**

- 3) Transistor and its uses.
- 4) Spectrum.
- 5) Coulomb's Law.
- 6) Laws of reflection.
- 7) Explain Spectrometer.
- 8) S.I Units.
- 9) Capacitor.

**III. WRITE SHORT ANSWER**

**5X2=10**

- 10) Refractive Index.
- 11) Electrical Resistance.
- 12) Limitations of Ohm's law.
- 13) Nuclear Fusion.
- 14) Scalar and Vectors.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**MEDICAL LABORATORY TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE – 2101**

**SECTION - A ANATOMY (WRITE IN SEPARATE ANSWER BOOK)**

**I. LONG ESSAY – ANSWER ANY ONE**

**1 x 10 = 10**

1. Name the parts of Alimentary system. Describe Pancreas in detail..
2. Describe uterus in detail.

**II. Write Short Essays Any 5**

**5 x 5 = 25**

3. Histology of bone
4. Trachea
5. Submandibular salivary gland
6. Small Intestine
7. Prostate
8. Spinal cord
9. Spleen

**III. Write Short Answers**

**5 x 2 = 10**

10. Name any four cranial nerves
11. Name any four arteries of upper limb.
12. Name any four veins of lower limb.
13. Name parts of excretory system.
14. Name the parts of Heart.

**QP CODE – 2102**

**Section- B, PHYSIOLOGY (Write in separate answer book)**

**I. Long Essay – Answer any ONE**

**1 x 10=10**

1. Classify white blood cells & write their functions
2. List the hormones of anterior pituitary gland & write the functions of growth hormone

**II. Write short notes on any FIVE**

**5 x 5 =25**

3. Name & write about plasma proteins
4. Write the properties of cardiac muscle
5. Name 4 lung capacities & give their normal values
6. Explain the digestion of fats
7. Draw labelled diagram of juxtra-glomerular apparatus & list its functions
8. Write the stages of spermatogenesis

**III. Write short answers**

**5 x 2=10**

9. Define bleeding time & give normal values
10. Name the inspiratory muscles
11. Write types of hypoxia
12. What is milk ejection' reflex
13. Write 2 functions of testis

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**MEDICAL X-RAY TECHNOLOGY**

**TIME 1.1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE – 2121**

**GENERAL PHYSICS**

**I LONG ESSAY- ANSWER ANY ONE**

**1X10=10**

- 1.) Production of X-rays? Write about X-ray tubes?
- 2.) Write about magnetism? Write about magnetic materials & properties?

**II. WRITE SHORT NOTES ON ANY FIVE**

**5X5=25**

- 3.) Energy.
- 4.) Atom.
- 5.) Auto-transformers.
- 6.) Cathode.
- 7.) Insulators.
- 8.) Law of conservation of energy.

**III. WRITE SHORT ANSWERS**

**5x2=10**

- 9) Ohm's law.
- 10).Rectifier
- 11) Forms of energy.
- 12) Voltameter.
- 13) Mass number.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**OPERATION THEATRE TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 2131**

**FUNDAMENTALS OF OT & BASIC CONCEPTS IN SURGERY**

**I LONG ESSAY- ANSWER ANY TWO**

**2X10 =20**

1. Describe an ideal Operation Theater plan and discuss how do you begin a new Operation Theater.
2. What is ambulatory surgery? Explain in detail the facilities for it in a hospital.
3. What are the various methods of sterilisation & discuss in detail about autoclaving.

**II WRITE SHORT NOTES ON ANY TEN**

**10 X5 = 50**

4. Surgical scrubbing
5. Day care surgery
6. Central venous pressure (CVP)
7. Central sterile supply department
8. Electrocautery
9. Informed consent
10. Blood transfusion
11. Skin grafting
12. Laparoscopic surgery
13. Osteomyelitis
14. Wound infection
15. Pulse oxymeter

**III WRITE SHORT ANSWERS**

**10 X2 = 20**

16. Enema
17. Draping
18. Linen packing
19. Ring block
20. C- arm
21. Boyle's apparatus
22. Instruments for lumbar puncture
23. Positions for operations
24. Ryle's tube
25. Cleaning of OT after surgery

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**Medical Records Technology**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE – 2141**  
**MEDICAL RECORD SCIENCE (MRS)**

**I. LONG ESSAY – ANSWER ANY TWO.**

**2 X 10 = 20**

- 1) Discuss about the Medical Records Committee, Describe its composition, Responsibilities & Functions?
- 2) Under I.P Code 1860 under general exemption, which are the acts that are exempted from the criminal liability?
- 3) Write about the Development of Medical Records in India?.

**II. WRITE SHORT NOTES ON ANY TEN.**

**10 X 5 = 50**

- 4) Quantitative & Qualitative analysis?
- 5) Which are the deficiencies commonly found in the case sheet & what are the procedure to complete it?
- 6) Write any three accepted definitions of Medical Records?
- 7) Bailable & Non Bailable Offence?
- 8) Write the rules and regulation follow to release the information to the government and other agencies? 9) Collections of Evidence?
- 10) Draw the Flow chart of I.P Records
- 11) Write about the Values of Medical Records ? 12) Accession Register?
- 13) Define Workmen Compensation Act & Malpractice Act?
- 14) Define the burden of proof when does the burden lies on the accused?
- 15) List out the Basic & Special Forms with Specifications?

**III. WRITE SHORT ANSWERS.**

**10 X 2 = 20**

- 16) I.P Counter
- 17) Misfiling
- 18) F.I.R
- 19) Movable Property
- 20) Discharge Analysis
- 21) Summons
- 22) Death Register
- 23) Good faith
- 24) Daily Census
- 25) Numbering System

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DIALYSIS TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE – 2151**

**SECTION - A PHARMACOLOGY (WRITE IN SEPARATE ANSWER BOOK)**

- I. LONG ESSAY – ANSWER ANY ONE** **1 x 10 = 10**
1. Name any six commonly used analgesics. Mention four uses, four adverse effects and four contraindications of Morphine. Name one opioid antagonist (3+2+2+2+1)
  2. Name any ten commonly used antiseptics and disinfectants. Write one use for each (5+5)
- II WRITE SHORT NOTES ON ANY FIVE** **5X5=25**
3. Calculate the amount of ingredients required to prepare 2 litres of 5% dextrose solution.
  4. Vitamin C
  5. Solid dosage forms.
  6. Oral route of drug administration
  7. Aspirin—uses and adverse effects
  8. Glucocorticoides —adverse effects
- III. WRITE SHORT ANSWERS** **5 X 2 = 10**
9. Name two drugs used for treating round worm infestation
  10. Name two live attenuated vaccines
  11. Name two drugs used for treating diabetes mellitus
  12. Name two toxoids
  - 13 Name the antidote for poisoning due to a. Paracetamol b. Diazepam

**QP CODE – 2152**

**SECTION - B THEORY OF DIALYSIS (WRITE IN SEPARATE ANSWER BOOK)**

- I) LONG ESSAYS-ANSWER ANY ONE** **1X10=10**
1. Describe the water treatment plant in your dialysis unit. Also add a note on steps in purification of water used for hemodialysis(5+5)
  2. Define hemodialysis. What are the indications for hemodialysis. Also mention about 4 complications commonly seen during hemodialysis.(3+3+4).
- II) SHORT NOTES ON ANY FIVE** **5X5=25**
3. Lab investigations done in a patient on hemodialysis
  4. How do you monitor a patient during hemodialysis?
  5. Define dialysis disequilibrium syndrome. How do you manage and prevent it?
  6. Describe the various types of hemodialysis access. Mention two sites for venous catheter placement.
  7. Write a short note on washing of accessories of hemodialysis.
  8. Describe reverse osmosis with diagram.
- III) WRITE SHORT ANSWERS (any five)** **5X2=10**
9. Normal BP and pulse rate
  10. Two sites of AV Fistula
  11. Two anticoagulants used during hemodialysis
  12. Describe wet needle technique of cannulation.
  13. Two blood borne infections in your dialysis unit
  14. Two vaccines given to hemodialysis patients.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**

**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**OPHTHALMIC TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 2161**  
**PAPER I**

**Your answers should be specific to the questions asked Draw neat labeled diagrams wherever necessary**

**I . Long Essay (Answer any two )**

**2 X 10 = 20**

1. What are the components of binocular single vision? Describe in brief about each of them.
2. Draw the layers of conjunctiva and note on importance of each layer ?
3. How do you interpret distance snellen's visual acuity ?

**II. SHORT ESSAYS .**

**10 X 5 =50**

4. Types of colour vision defects
5. Atropine in ophthalmology
6. Describe, how to check for uniocular eye movements
7. Bones forming the medial wall of orbit
8. In brief about types of Perimeters
9. Indention Tonometry
10. Tests for Stereopsis?
11. What are laws of Refraction?
12. How to perform Keratometry
13. Pre-op investigations in patient undergoing any sac surgeries
14. Note on Simple transpositions?
15. Schematic diagram of Strum's conoid

**III. WRITE SHORT ANSWERS**

**10X2=20**

- 16 Therapeutic uses of Contact lenses
- 17 Types of SRK formula
- 18 Types of Aberrations in eye
- 19 Two causes of Night blindness
- 20 Mention types of Bifocal lenses
- 21 Types of Cataract surgeries
- 22 Two eye Refractive errors
- 23 Mention two uses of Prisms in ophthalmology
- 24 Types Keratometers
- 25 Layers of Eye ball

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**

**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DENTAL MECHANICS**

**TIME 1. 1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE — 2171**  
**PAPER I**

**I. LONG ESSAY - ANSWER ANY ONE**

**1 X 10 =10**

1. Classify impression materials. Write the composition setting reaction and technical considerations of alginate impression material.
2. Write any one classification of dental alloys. Write in detail about the base metal alloys.

**II. WRITE SHORT NOTES ON ANY FIVE**

**5 X 5 25**

3. Annealing
4. Soldering and welding
5. Zinc oxide eugenol cement
6. Dental stone
7. Autopolymerising resin
8. Finishing and polishing agents used in dentistry
9. Investment materials

**III. WRITE SHORT ANSWERS**

**5 X 2 =10**

10. Two uses of glass ionomer cements
11. Separating media
12. Gold alloys
13. Dimensional stability
14. Casting ring

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**

**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DENTAL HYGIENE**

**TIME 1. 1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE — 2181**

**ANATOMY (WRITE IN SEPARATE ANSWER BOOK)**

**I Long essays (any 1)**

**1x9=9**

1. Describe submandibular gland.
2. Describe trigeminal nerve.

**II Short essays (any 2)**

**2X5 =10**

3. Histology of cartilage.
4. Facial artery.
5. Structure of Tooth.

**III Short answers**

**3x2=6**

6. Name the Muscles of mastication.
7. Name branches of facial nerve.
8. Name paranasal air sinuses.

**Q.P.CODE-2182**

**PHYSIOLOGY (WRITE IN SEPARATE ANSWER BOOK)**

**I. Write short notes**

**4 X 4=16**

- 1) Parathyroid gland secretions and functions
- 2) Blood Groups
- 3) Mechanism of swallowing
- 4) Clotting factors

**II. Write short answers**

**2 X 2=4**

- 5) 2 Functions of kidney
- 6) Neat labeled diagram of Heart

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**

**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**PHYSIOTHERAPY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE – 2191**

**I. Long essays (any 2)**

**2x10=20**

- 1) Name the Chambers of Heart. Give its Surfaces, Borders & Blood supply
- 2) Classify bones with examples. Describe Long bone with its blood supply
- 3) Name the parts of Brain. Describe in detail about Cerebrum

**II. Short essays (any 10)**

**10x5=50**

- 4) Brochopulmonary segments
- 5) Pronation & Supination-Muscles & joints involved in it
- 6) Histology of Hyaline cartilage
- 7) Blood supply of knee joint
- 8) Muscles of Posterior compartment of leg and give its nerve supply
- 9) Neuron
- 10) Histology of skin
- 11) Gluteus maxims
- 12) Stomach
- 13) Urinary bladder
- 14) Uterus -Parts and supports
- 15) Pituitary gland

**III. Short answers:**

**10x2=20**

- 16) Name 2 cranial nerves
- 17) Name muscles of mastication
- 18) Name contents of Spermatic cord
- 19) Openings in the Thoraco-abdominal Diaphragm
- 20) Superficial palmar arch
- 21) Name the types of Epiphysis
- 22) Name 2 branches of Brachial artery
- 23) Name features of Large Intestine
- 24) Name 2 types of Synovial joints of lower limb
- 25) Name 2 branches of External carotid artery

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Medical Laboratory Technology**  
**QP CODE — 3102**  
**Subject: Pathology**

**Time: 3 Hours**

**Max. Marks : 90**

**I. Long Essay : (Answer any two)**

**2x10=20**

1. What are the different types of Haematoxylin. Write briefly the Principle, preparation, staining methods and storage (3+2+3+2)
2. Discuss the prerequisites and requirements to organize a blood camp in the school. Add a note on the benefits of Blood donation (3+4+3)
3. What is Automation? What are the equipment's used in haematology; and describe the working principle of Automated haematology cell counter (2+4+4)

**II. Short Essay : (Answer any ten)**

**10x5=50**

4. Mounting Technique for museum specimen.
5. Decalcification
6. Quality control in Blood Banking
7. Qualities of an Ideal Paraffin Block
8. Reticulin Stain
9. Cross Matching
10. Indirect Coomb's Test
11. Phlebotomy and its Complications
12. Method of Cell Counting in Cerebrospinal fluid
13. Indications for Bone Marrow and Sites of Bone marrow Aspiration
14. Morphology of Sperms with Diagram
15. Osmotic fragility test – Use and procedure

**III. Short Answer :**

**10x2=20**

16. Stains Used in Pap Smear
17. Principle of Microwave Tissue Processing
18. Preparation of Eosin stain
19. Indication for Frozen sections
20. Significance of Blood grouping
21. How do You Prepare Sputum for Cytological Examination
22. Which is the two authority which control Blood bank
23. Name two immunomarkers
24. Two uses of xylene
25. Normal Prothrombin Time and Activated Thromboplastin Time

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**HEALTH INSPECTOR**  
**QP CODE — 3112**  
**Subject: Paper II**

**Time 3 Hrs.**

**Marks:90**

**I. Long Essay — Answer any TWO**

**2x10=20.**

1. Write different barrier methods. Add a note on Condoms.
2. List micronutrient deficiencies and its prevention in children.
3. List the examination and lab investigation of antenatal mother.

**II. Write Short notes on any TEN.**

**10x5=50.**

4. Male sterilization.
5. Causes of Infant Mortality.
6. Diet of a Lactating mother.
7. Problems of a preschool child.
8. Dietary advice to a pregnant lady.
9. Permanent sterilization methods in Females.
10. Different methods of mass approach.
11. Add a note on breastfeeding.
12. Complications of postpartum period.
13. Behavioral problems in children.
14. Health Appraisal of a child in school health services.
15. Problem family.

**II. Write Short Answers.**

**10x2=20**

16. Postpartum programme.
17. Kangaroo Mother Care.
18. Foster homes.
19. Define Maternal Mortality Rate.
20. Folk Media.
21. Two way communication.
22. List four causes of communication barrier.
23. Define demography.
24. List two causes of mortality in preschool child.
25. Anganwadi Worker.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Medical X-Ray Technology**  
**QP CODE — 3122**

**Subject: RADIOGRAPHY INCLUDING MEDICAL RECORDS R — II**  
**Time: 3 hrs** **Max. Marks: 90**

**I. LONG ESSAY — ANSWER ANY TWO**

**2 x 10 = 20**

- 1) What is urethrogram? Discuss about antegrade & retrograde urethrogram?
- 2) Briefly explain about hysterosalpingography?
- 3) Discuss about X-ray and imaging?

**II WRITE SHORT NOTES ON ANY TEN**

**10 x 5 = 50**

- 4) Dark room procedures.
- 5) View box.
- 6) Secondary radiation.
- 7) Water's view.
- 8) KvP.
- 9) Patient preparation.
- 10) Digital radiography.
- 11) Barium swallow.
- 12) Cassettes.
- 13) Sinogram.
- 14) Radiation protection.
- 15) Consent form.

**III. WRITE SHORT ANSWERS**

**10 x 2 = 20**

- 16) TLD badge.
- 17) Clinical history.
- 18) Chest X-ray brief.
- 19) Filament.
- 20) Negative image.
- 21) Positive contrast.
- 22) Electro Magnetic (EM) radiation.
- 23) Conventional radiography.
- 24) Medical records.
- 25) Medico legal case.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**OT Technology**  
**QP CODE – 3132**  
**OPERATIVE PROCEDURE**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I LONG ESSAY- ANSWER ANY TWO**

**2x10=20**

1. Laparoscopic surgery.
2. Special features of Orthopedic surgery.
3. Shock, hemorrhage and DIC.

**II. WRITE SHORT NOTES ON ANY TEN**

**10x5=50**

4. Organ transplantation.
5. Abdominal incisions.
6. CPR.
7. Pre-operative checklist.
8. Ambulatory surgery.
9. Surgical positions.
10. Robotic surgery.
11. Joint replacement surgery.
12. Tonsillectomy.
13. Vaginal hysterectomy.
14. Skin preparation.
15. Cataract surgery.

**III WRITE SHORT ANSWERS**

**10 X2=20**

16. Skin Grafting.
17. Angioplasty.
18. Burr hole.
19. Intercoastal drainage.
20. Radiotherapy
21. Urologic endoscopy
22. Patient identification inside OT.
23. IV fluids
24. Patient draping.
25. C- arm

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Medical Record Technology**  
**Hospital Administration**  
**QP CODE — 3142**

**Time : 3 Hours.**

**Max. Marks:90.**

**I. Long Essays Any Two.**

**2x10=20**

1. What is Healthcare waste Management? Write a note on management of sharps.
2. What are the functions of hospitals in Healthcare? Write a note on dietary services provided.
3. Define Controlling. Write in detail the control techniques in management.

**II. Write briefly on any TEN**

**10x5=50**

4. Elements of Primary Health care
5. Preventive measures to control rodents in hospitals
6. Role of Hospital stores
7. Fire-safety in Hospitals
8. Transportation facilities in hospital
9. Incineration
10. Security services in hospitals
11. Planning of Intensive care unit
12. Role of Hospital Administrator
13. Organisation of Nursing Department
14. Organisation of Medical Records Department
15. Disaster preparedness

**III. Write Short Answers**

**5x4=20**

16. Paramedical worker
17. Injection Room
18. Purchasing Committee
19. Functions of Radiology Department
20. Health Inspector

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**DIALYSIS TECHNOLOGY**  
**Renal Replacement Therapy Other Than Haemodialysis**  
**& Patient Teaching**  
**QP CODE - 3152**

**Time: 3 hrs**

**Max. Marks: 90**

**I. LONG ESSAYS - ANSWER ANY TWO**

**2 x 10 = 20**

- 1) Describe anatomy of Peritoneal membrane. Discuss the three pore model of peritoneal transport and transport characteristics of peritoneum.
- 2) Discuss dialysis of a patient of methyl alcohol poisoning with hypotension and acidosis in the intensive care unit
- 3) Discuss 'Quality Of Life' of dialysis patients. Discuss psychiatric complications in maintenance hemodialysis patients

**II. WRITE SHORT NOTES ON ANY TEN**

**10 x 5 = 50**

- 4) Indications for dialysis with normal kidney functions
- 5) Residual renal function
- 6) Erythropoiesis Stimulating Agents
- 7) Cyclers in Peritoneal dialysis
- 8) Waste segregation in the dialysis unit
- 9) Plasma and other apheresis therapies
- 10) Hemo perfusion
- 11) Kt/V
- 12) Hemodialysis in a HIV patient
- 13) Universal precautions in the Hemodialysis unit
- 14) Difference between 'flux' and 'efficiency' in dialysers
- 15) Anticoagulation protocols in CRRT

**III. WRITE SHORT ANSWERS**

**10 x 2 = 20**

- 16) Tidal Peritoneal dialysis
- 17) Two drugs used to treat hyperparathyroidism
- 18) Non dialytic treatment of hyperkalemia
- 19) Veins used for AV fistula creation
- 20) Home requirements for Peritoneal dialysis
- 21) Body Mass Index
- 22) Bio impedance
- 23) Cardiac monitor use in the dialysis unit
- 24) Two replacement fluids
- 25) Newer peritoneal dialysis fluids

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Ophthalmic Technology**  
**PAPER –11**  
**QP CODE-3162**

**Time: 3hrs**

**Max.Marks:90**

**I. Long essay — Answer any Two.**

**2 x10 = 20**

- 1) Mention in detail the Out Patient Department (OPD) & In Patient Department (IPD) record keeping?
- 2) Write in detail about National programme for control of blindness.
- 3) Describe School Screening in detail.

**II. Write short notes on any TEN.**

**10 x 5 = 50**

- 4) Minot- surgical records maintenance.
- 5) Transportation of donor eyes.
- 6) Vitamin A deficiency.
- 7) Alphabetical Index.
- 8) Vocational training of blind.
- 9) Use of cycloplegics for refraction in children.
- 10) Preparation of eyepads.
- 11) What are the camp activities done in your hospital.
- 12) ICD 10.
- 13) How do you prevent common eye disease?
- 14) Differences between spherical and cylindrical lens .
- 15) How is a optometrist useful in the field of ophthalmology

**III. Write short answers**

**10 x2 = 20**

- 16) 2 harts for distant vision charts
- 17) 2 preservation media for eyeball preservation.
- 18) Brief on consent format.
- 19) 2 uses of prisms in ophthalmology.
- 20) Mention 2 minor surgical procedures.
- 21) Emergency management of alkali injuries.
- 22) Indication of Dacryocystectomy (DCT).
- 23) Disease index.
- 24) Epilation.
- 25) Numerical index.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**

**DENTAL MECHANICS**  
**PARTIAL DENTURES, ORTHODONTIA, MAXIOFACIAL PROSTHESIS**  
**QP CODE - 3172**

**Time: 1 '1/2 hrs**

**Max. Marks: 45**

**I. LONG ESSAY**

**1 X 10 =10**

1. Explain in detail about various components of removable partial dentures.

**II WRITE SHORT NOTES**

**5 X 5=25**

2. Adam's clasp
3. Pindex system
4. Full crown or complete veneer crown
5. Pontic designs
6. Porosities in casting

**III. WRITE SHORT ANSWERS**

**5 X2 =10**

7. Gingivally approaching clasp
8. Obturator
9. Labial bow
10. Ceramic furnace
11. Coffin spring

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**DENTAL HYGIENE**  
**DENTAL HEALTH EDUCATION, SOCIAL & PUBLIC HEALTH & PREVENTIVE**  
**DENTISTRY**  
**QP CODE - 3182**

**Time: 1 '1/2 hrs**

**Max Marks: 45**

**I. Long essay**

**1 x10=10**

1. Describe various mechanical plaque control measures.

**II. Write short notes**

**5x5=25**

2. Oral health in handicapped patients.
3. Home care instructions.
4. School water fluoridation.
5. Prevention of dental caries.
6. Simplified oral hygiene index.

**III. Write short answers**

**2x5=10**

7. Gingival massage.
8. Thumb sucking habit.
9. Dentifrices.
10. Chemical plaque control.
11. Audio visual Aids.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN PHYSIOTHERAPY**  
**PHARMACOLOGY**  
**QP CODE - 3192**

**Time: 3 hrs**

**Max Marks: 90**

**I. LONG ESSAY — ANSWER ANY FOUR**

**4X15=60**

1. Name any eight routes of drug administration giving one example for each. Mention three advantages and two disadvantages of any one route (10+3+2)
2. Name any eight general anaesthetics. Mention five advantages and five disadvantages of Halothane (5+5+5)
3. Name any eight anticholinergic drugs. Mention six uses and four adverse effects of Atropine (5+6+4)
4. Name five groups of antihypertensive drugs giving one example for each group. Write the mechanism of action, five uses and three adverse effects of any one (5+2+5+3)
5. Name any six aminoglycoside antibiotics. Write any six of their general properties. Mention three uses and three adverse effects of any one (3+6+3+3)

**II. WRITE SHOT NOTES ON ANY FIVE**

**(4x5=20)**

6. Succinylcholine
7. Bronchodilators
8. Fat soluble vitamins-deficiency states
9. Cardioselective beta blockers
10. Glucocorticoids — therapeutic uses

**III. WRITE SHORT ANSWERS**

**(5x2=10)**

11. Insulin- two uses and two adverse effects
12. Mention two calcium preparations
13. Mention one drug used for treating myxoedema and Grave's disease
14. Mention two antiepileptic drugs
15. Mention the antidotes for poisoning due to
  - a) Paracetamol
  - b) Morphine

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**CERTIFICATE COURSE**  
**CHEMISTRY**  
**QP CODE 1102**

**Time: 1. ½ hrs**

**Max. Marks: 45**

**I. LONG ESSAY-ANSWER ANY ONE**

**1 x 10 =10**

- 1) What is natural radioactivity and applications of radioisotopes?
- 2) Explain the preparation of Sulphuric acid by contact Process.

**II. WRITE SHORT NOTES ON ANY FIVE**

**5x5=25**

- 3) Preparation of methane.
- 4) Types of buffer solution.
- 5) Biochemical messengers.
- 6) Biological Importance of Nucleic acids.
- 7) Purines and Pyrimidine.
- 8) Half life period .
- 9) Aqua Regia.

**III. WRITE SHORT ANSWERS**

**5 x 2 = 10**

- 10) Molasses
- 11) Tyndal Effect.
- 12) Structure of Alanine and Glycine.
- 13) Uses of Iodine.
- 14) Oxidation & reduction.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**MEDICAL LABORATORY TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**QP CODE — 2103**  
**Subject: Biochemistry**

**I LONG ESSAY- ANSWER ANY TWO**

**10 X 2=20**

1. Define carbohydrates. Classify them with suitable examples and add a note on its functions. (2+5+3 =10)
2. Explain with diagram photoelectric colorimeter and its uses in laboratory. (7+2 =10)
3. Minerals and Vitamins (5+5=10)

**II. WRITE SHORT NOTES**

**10 x 5=50**

4. Conjugate proteins
5. Titration
6. Explain equivalent weight and molecular weight with examples
7. Analytical balance
8. Hot air oven
9. Water bath
10. Functions of Minerals
11. Classify lipids with examples
12. Explain Normality and Molarity with examples
13. Isoenzymes

**III WRITE SHORT ANSWERS**

**10X2=20**

14. Two examples of strong Bases
15. Define pH. What is normal pH of urine
16. Sucrose.
17. Definition of Buffers
18. Pipette and auto pipette
19. Safety measures in Laboratory
20. Percent solution with example
21. Essential amino acids
22. Name 2 indicators
23. Primary standard

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**HEALTH INSPECTOR**  
**QP CODE — 2111**  
**SUBJECT: PAPER I**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I. Long Essay — Answer any TWO**

**2x10=20.**

1. Enlist indicators of health and explain one of them in detail.
2. Write different types of families and explain the role of families in maintaining good health.
3. Explain the structure of heart with its function.

**II. Short notes on any TEN.**

**10x5=50.**

4. Write the effects of alcohol on family.
5. Explain different food habits related to diseases.
6. Briefly explain dimensions of health.
7. What is icebergs phenomenon explains with examples.
8. Explain different risk factors for hypertension.
9. Explain spectrum of Health.
10. Explain various types of rehabilitation.
11. Mention different concepts of health. Explain any one of them.
12. Define Health and Write a note on Positive Health.
13. What is Physical Quality of Life Index
14. Write the differences between urban and rural community.
15. Define Disease Eradication. Explain with examples.

**III. Write Short Answers.**

**10x2=20.**

16. Broken Family.
17. Acculturation.
18. Write the functions of Lungs.
19. Write two advantages of Joint Families.
20. What is an Epidemic. Give an example.
21. Write note on Medical Social worker.
22. What is Secondary prevention. Explain with an example.
23. What is Epidemiological Triad
24. Give two examples of Non-communicable Diseases.
25. Mention two risk factor for cancers.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**MEDICAL X-RAY TECHNOLOGY**  
**QP CODE — 2122**  
**SUBJECT: ANATOMY**

**TIME : 1. ½ HRS**

**MAX MARKS: 45**

**I Long Essay – answer any two**

**2x10=20**

1. Name the parts of Central nerves system. Describe pituitary gland in detail.
2. Name the parts of Female Reproductive system. Describe Uterus in detail.
3. Name the parts of Excretory system. Describe kidney in detail.

**II Short Notes – answer any three**

**3x5=15**

4. Liver
5. Heart
6. Pharynx
7. Histology of muscle

**III Short answers**

**5x2=10**

8. Name types of cartilages.
9. Name endocrine glands.
10. Name parts of Alimentary system.
11. Name any two muscles of upper limb.
12. Name the parts of Humerus.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**OT TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**SECTION – A, BIOCHEMISTRY (write in separate answer book) QP CODE – 2132**

**I LONG ESSAY- ANSWER ANY ONE**

**1x10=10**

1. Explain sources of blood glucose. Write normal fasting and post prandial blood glucose level. Add a note on maintenance of blood glucose level. (3+2+5 =10)
2. Name abnormal constituents of urine and how do we test the abnormal constituents of urine. (5+5=10)

**II. WRITE SHORT NOTES ON ANY TWO**

**2x5=10**

3. Urea and Creatinine Clearance tests.
4. Normal constituents of Urine.
5. Formation and detoxification of ammonia

**III. WRITE SHORT ANSWERS**

**5X2=10**

6. Common causes for metabolic acidosis
7. Heat and acetic acid test
8. Normal values of serum electrolytes.
9. Normal values of blood urea and serum creatinine.
10. Specific gravity of urine

**SECTION – B, PHARMACOLOGY (Write in separate answer book) QP CODE – 2133**

**I. ANSWER ANY ONE**

**1 x 10 =10**

1. Name two local and four systemic routes of drug administration giving one example for each route. Write four advantages and two disadvantages of intravenous route (6+2+2).
2. Name any six sedative hypnotics. Mention four actions, four uses and four adverse effects of diazepam. (3+2+3+2).

**II. WRITE SHORT NOTES OF ANY TWO**

**2 x 5 =10**

3. Name five types (techniques) of local anaesthesia. Write one use for each
4. Preanaesthetic medication
5. Method of operation theatre sterilization

**III. WRITE SHORT ANSWERS**

**5 x 2 =10**

6. Name two opioid analgesics
7. Name two antiseptics
8. Name two broad spectrum antibiotics
9. Name two surface anaesthetics
10. Name two drugs used for treating anaphylactic shock

**SECTION – C, MICROBIOLOGY (Write in separate answer book) QP CODE – 2134**

**I. Answer any one**

**1X10=10**

1. Classify bacteria and draw a neat labelled diagram of bacterial cell,
2. Define and classify sterilization. Discuss in detail about flash sterilisation.

**II. Write short notes on any two**

**2X5=10**

3. Transmission of HIV infection
4. management of blood spill
5. Surgical hand wash

**I. Write short answers**

**5X2=10**

6. Name two bacterial causing post-operative infections
7. Name two bacterial vaccines,
8. Name two contributions of Louis Pasteur
9. Name two fungi causing human infections
10. Name two bacteria producing pigment.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**MEDICAL RECORD TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**SECTION – A Anatomy (Write in separate answer book) QP CODE – 2142**

**I. Long Essay – answer any one**

**1x10=10**

1. Name the parts of female reproductive system. Describe uterus in detail.
2. Describe Heart in detail.

**II. Short Notes – answer any two**

**2x5=10**

3. Pancreas
4. Urinary bladder
5. Thyroid gland

**III. Short answers**

**5x2=10**

6. Name any four arteries of upper limb.
7. Neat labelled diagram of mitochondria.
8. Name any two bones of lower limb.
9. Name any two cranial nerves.
10. Name any two muscles of upper limb

**Section B –Physiology (Write in separate answer book) Q-P code -2143**

**I. LONG QUESTION :**

**10X 1 = 10**

- 1) Explain in detail the steps in formation of R.B.Cs (Erythropoiesis)

**II. SHORT NOTES :**

**5X2 = 10**

- 2) Hormones and disorders of posterior pituitary
- 3) Formation of Urine

**III. SHORT ANSWERS :**

**2 X5 = 10**

- 4) Bile juice
- 5) Muscles of inspiration
- 6) Normal values of Blood pressure
- 7) Vital capacity
- 8) Nephron

**SECTION –C, PATHOLOGY& MICROBIOLOGY (Write in separate answer book) 2144**

**I. Long Essay (Answer any one)**

**1 x 10= 10**

1. What is pathology? Write briefly about the different sections in pathology department
2. Draw a neat labelled diagram of light microscope. Write a note on tuberculosis

**II. Short Essay on any two**

**2x 5 = 10**

3. Note on different investigations conducted in microbiology
4. Write difference between gram positive and gram negative bacteria
5. Write a note on maintenance of medical records in pathology

**III. Short Answers**

**5x 2 = 10**

6. Name 2 chemical tests for urine analysis
7. Why is Widal test done?
8. Ziehl Nelson stain- uses
9. Name 2 gram negative bacteria
10. Name any 2 investigations done in pathology

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DIALYSIS TECHNOLOGY**

**TIME 3 HRS.**

**MAX. MARKS: 90.**

**SECTION – A Biochemistry (Write in separate answer book) QP CODE – 2153**

**I. LONG ESSAY- ANSWER ANY ONE**

**10X1=10**

1. a) Name six abnormal constituents of urine. b) How to we test those abnormal constituents in the Laboratory? (3+7=10)
2. Explain the formation of Urea and its excretion urea under following
  - a) Site of urea synthesis
  - b) Sources of nitrogen in Urea
  - c) Urea cycle
  - d) Normal blood urea level

**II. WRITE SHORT NOTES ON ANY FIVE**

**5x5=25**

3. Define Acid, Bases and Buffer give two examples for each
4. Analysis of Normal Urine
5. Role of Kidney in maintaining the pH of Blood.
6. Write briefly on digestion and absorption of carbohydrates
7. Chromatographic techniques and its application in dialysis
8. How do we collect the urine for different tests? Name the preservatives used in storage of urine

**III. WRITE SHORT ANSWERS**

**5X2=10**

9. Name electrolytes and their normal values
10. Name two disaccharides.
11. Write two differences between plasma and serum.
12. Name amino acids involved in synthesis of creatinine.
13. Benedict's test.

**SECTION – B Microbiology (Write in separate answer book) QP CODE – 2154**

**I. Long essay**

**1\*10=10**

1. Draw a neat labelled diagram of bacterial cell. Add a note on flagella
2. Discuss in detail about laboratory diagnosis of enteric fever

**II. Write short notes on any five**

**5\*5=25**

3. Bio-medical waste mananment
4. Autoclave
5. Gaseous disinfection
6. Passive immunity
7. Robert Koch
8. Cryptococcus

**III. Write short answers**

**5\*2=10**

9. Modes of transmission of HIV
10. Name two commensal bacteria
11. Name two Gram negative bacteria
12. Sterilization controls
13. Name two organism causing hospital acquired infection

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**

**Ophthalmic Technology**  
**Q.P Code : 2162**

**Time : 3 Hrs.**

**Max. Marks : 90**

**Your answers should be specific to the questions asked. Draw neat labelled diagrams wherever necessary.**

**I. LONG ESSAY (Answer any two)**

**2 X 10 = 20**

- 1) Define Conjunctivitis. Mention types of Conjunctivitis, write about clinical features and treatment.(1+3+3+3)
- 2) Define Cataract. Types of Cataract. Diagnosis and treatment of Cataract.(1+3+3+3)
- 3) Define Amblyopia. Types of Amblyopia. Write a note on patching therapy.(2+4+4)

**II. Short Essay**

**10 X 5 = 50**

- 4) Vitamin A deficiency.
- 5) Types of Tonometry. Explain applications of Tonometry.
- 6) Clinical features of Ocular trauma.
- 7) Chronic Dacrocystitis,
- 8) Cycloplegics in refraction testing.
- 9) Post operative medications after cataract surgery.
- 10) First Aid in chemical injury of the eye.
- 11) Spring catarrh.
- 12) Oral glycerol.
- 13) Classification of diabetic retinopathy.
- 14) Causes of watering of eye.
- 15) Clinical features of acute Iridocyclitis.

**III. Write Short Answers**

**10X2=20**

- 16) Name two antiglaucoma drugs.
- 17) Dry eye symptoms.
- 18) Signs of Acute Conjunctivitis.
- 19) Name two anti-glaucoma surgery.
- 20) Name two antibiotics used in ophthalmology.
- 21) Name two steroids used in ophthalmology.
- 22) Name two antihistaminic drugs uses in allergic Conjunctivitis.
- 23) Treatment of Blepharitis.
- 24) Two signs of Keratoconus.
- 25) Two causes of red eye.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DENTAL MECHANICS**  
**APPLIED ORAL ANATOMY**  
**Q.P Code : 2172**

**Time : 1.1/2 Hrs.**

**Max. Marks : 45**

**I. LONG ESSAY - ANSWER ANY ONE**

**1 X 10 = 10**

1. Describe the anatomy of permanent maxillary first molar.
2. Denture supporting and limiting areas of edentulous arches.

**II. WRITE SHORT NOTES ON ANY FIVE**

**5 X 5 = 25**

3. Muscles of mastication
4. Posterior palatal seal area
5. Anatomy of mandibular permanent central incisor
6. Temporo-mandibular joint
7. Compensating curves
8. Overjet and overbite
9. Developmental grooves

**III. WRITE SHORT ANSWERS**

**5 X 2 = 10**

10. Incisive papilla
11. Fovea palatinae
12. Maxillary tuberosity
13. Labial frenum
14. Cusp of carabelli

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DENTAL MECHANICS**

**Section- A, GENERAL PATHOLOGY & MICROBIOLOGY**  
**(Write in separate answer book) QP code - 2183**

**Time : 1.1/2 Hrs.**

**Max. Marks : 45**

**I. Long Essay (Answer any one)**

**1 x 9 = 9 Marks**

1. Define necrosis. Discuss types of necrosis with examples
2. Define Neoplasm. Write differences between benign and malignant tumors

**II. Short Essay on any four**

**4x 5 = 20 Marks**

3. Pyogenic granuloma
4. Classify odontogenic cyst
5. Classify vitamins
6. Process of wound healing
7. Oral leukoplakia
8. Write briefly about Cellular events of inflammation

**III. Short Answers**

**3x 2 = 6 Marks**

9. Name special stain for candida
10. Define attrition and abrasion
11. Name methods of sterilization

**Section- B, GENERAL PHARMACOLOGY (Write in separate answer book)**  
**QP CODE- 2184**

**I. Write short answers**

**5 x 2 = 10**

1. Name two NSAIDs
2. Name two broad spectrum penicillins
3. Name two Abrasives
4. Name two local anaesthetics
5. Name two drugs used to control bleeding during dental procedures

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Medical Laboratory Technology**  
**QP CODE – 3103**  
**Subject: Microbiology**

**Time: 3 Hours**

**Max. Marks: 90**

**I. Long essay-Answer any two**

**2\*10=20**

1. Discuss the pathogenesis and lab diagnosis of cholera.
2. Enumerate the infections in ICU. Discuss in detail disinfection of ICU in the hospitals
3. Draw a neat labelled diagram of HIV virus. Add a note on its transmission.

**II. Write short notes on any ten**

**10\*5=50**

4. Lab diagnosis of candida
5. WIDAL test
6. Lab diagnosis of malaria
7. Biomedical waste management
8. Gram stain
9. Hepatitis B virus
10. Standard precautions in microbiology.
11. Anaphylaxis
12. Methicillin-resistant Staphylococcus aureus (MRSA)
13. Antibiotic sensitivity testing
14. Lab diagnosis of meningitis
15. Characteristics of enterobacteriaceae
16. Anti-streptolysin O (ASLO) test

**III. Write short answers**

**2\*10 = 20**

17. Name two catalase positive organisms
18. Name two bacteria producing pigment
19. Name two organisms causing dysentery
20. Name two viral vaccines
21. Name two bacteria causing nosocomial infections
22. Name two sexually transmitted infections
23. Name two ova and two cysts found in stool
24. Name two uses of ELISA tests
25. Name two uses of autoclave
26. Name two soil transmitted helminths

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**HEALTH INSPECTOR**  
**QP CODE – 3113**  
**Subject: Paper III**

**Time 3 Hrs.**

**Max. Marks: 90**

**I. Long Essay – Answer any TWO**

**2x10=20.**

1. Discuss in detail the benefits under Employees State Insurance (ESI) Act.
2. What are the risk factors for tuberculosis. Discuss RNTCP role.
3. Define Primary Health Care. Discuss the Principles of Primary Health Care with an example each.

**II. Write Short notes on any TEN.**

**10x5=50.**

4. Services provided at a Sub-centre
5. Advantages of Rural Development
6. Job responsibilities of Female Health Assistant.
7. Child Abuse and its prevention.
8. Sanitation Barrier.
9. Audio-visual Aid .
10. Services provided under Adolescent Health care.
11. Anthelmintic Drugs.
12. Medical Termination Of Pregnancy (MTP) Act.
13. Job responsibilities of Anganwadi Worker.
14. Mental Health Services in the Community.
15. Sources of vitamin C.

**III. Write Short Answers.**

**10x2=20**

16. Name any 2 Voluntary Health Agencies.
17. Enumerate the basic resources required to meet the Health needs.
18. Culex mosquito.
19. Definition of health.
20. What are the main components of the communication process.
21. Health problems in our country – Any 2
22. Functions of Food and Agricultural Organisation.
23. Health Team Concept.
24. Which are the various Health Insurance Schemes.
25. Common health problems of the old age.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Medical X-Ray Technology**  
**QP CODE — 3123**  
**RADIOGRAPHY INCLUDING NEWER IMAGING TECHNOLOGY R — III**

**Time: 3 hrs**

**Max. Marks: 90**

**I. LONG ESSAY — ANSWER ANY TWO**

**2 x 10 = 20**

- 1) Basic principle of computed tomography? What is Hounsfield unit?
- 2) Basic principles of Ultrasound? Write about sound waves?
- 3) Discuss about gamma camera.

**II. WRITE SHORT NOTES ON ANY TEN**

**10 x 5 = 50**

- 4) Double contrast medium.
- 5) Properties of Radiofrequency pulse
- 6) T tube cholangiogram.
- 7) Angiography.
- 8) Contrast imaging.
- 9) Preparation of patient in MRI Scan.
- 10) Safety considerations in radiation dose.
- 11) Fluoroscopy.
- 12) Sonomammography.
- 13) T1 weighted imaging.

**III. WRITE SHORT ANSWERS**

**10 x 2 = 20**

- 14) Pixel.
- 15) Bowel preparation.
- 16) Pre-Conception and Pre-Natal Diagnostic Techniques (PNDT) act.
- 17) Ultrasound transducer.
- 18) Contrast.
- 19) Voxel.
- 20) Pitch.
- 21) CT guided biopsy.
- 22) Artefact.
- 23) Ultrasound guided aspiration.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**Medical Record Technology**  
**Computer Sciences**  
**QP CODE — 3143**

**Time: 1.30 Hours.**

**Max. Marks: 40**

**I. LONG ESSAE -ANWER ANY ONE**

**1X10=10**

1. Define Computer and write the uses of computers in Medical Records Department?
2. Describe the various input and output devices of a computer.

**II. WRITE SHORT NOTES ANY FOUR**

**4X5=20**

- 3) Write different types of computer
- 4) Storage devices
- 5) Difference between laser printer & dot matrix printer
- 6) Application of computer
- 7) Hard disk
- 8) Disadvantages of computer

**III. WRITE SHORT ANSWERS**

**5X2=10**

- 9) Pen drive
- 10) PPT
- 11) Key board
- 12) Monitor
- 13) Laptop

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**DENTAL HYGIENE**  
**Operating room Technique, Chair side Assts. & Dental Materials,**  
**Ethics & Jurisprudence**  
**QP CODE - 3183**

**Time: 1 '1/2 hrs**

**Max Marks: 45**

**I. Long essay**

**1x10 =10**

1. Describe in detail various sterilization methods and care of dental instruments.

**II. Write short notes**

**5x5 = 25**

2. Ethics in dental practice.
3. Restorative materials.
4. Appointment and recall system.
5. Dental Council of India.
6. Malpractice.

**III. Write short answers**

**2x5 =10**

7. Interdental cleaning aids.
8. Scalers and curettes.
9. Basic knowledge of photography.
10. Storage of dental instruments.
11. Instructions to patients and recall.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**CERTIFICATE COURSE**  
**BIOLOGY**  
**QP CODE 1103**

**Time: 1. ½ hrs**

**Max. Marks: 45**

**I. LONG ESSAY- ANSWER ANY ONE**

**1x10= 10**

1. Define cell division. Write in detail about meiosis.
2. Draw a neat labeled diagram of the nephron and describe the formation of urine.

**II. WRITE SHORT NOTES ON ANY FIVE**

**5X5 = 25**

3. Difference between DNA & RNA.
4. Define Enzymes. How Enzymes acts.
5. Explain kerb's cycle .
6. Epithelial tissue.
7. Blood grouping and Rh typing.
8. Chromosomes.
9. Fertilization.

**III. WRITE SHORT ANSWERS**

**5x2=10**

10. Heart chamber
11. Name two viruses.
12. Ribosomes
13. Pacemaker.
14. Implantation.
15. Haemoglobin.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**Medical Laboratory Technology**  
**QP CODE — 2104**  
**Subject: Pathology**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I. LONG ESSAY : ANSWER ANY TWO :**

**(2x10=20)**

1. Write the steps in tissue processing in histopathology. Write a note on embedding technique.
2. Write the stains used in cytology. Write in detail about pap staining procedure
3. Write the Preparation of leishmans stain & staining of peripheral smear. Mention two features of ideal smear.

**II. SHORT ESSAY : ANSWER ANY TEN:**

**(10x5=50)**

4. Benedicts test .
5. Total WBC Count.
6. Blood indices.
7. Reticulocyte count.
8. Erythrocyte Sedimentation Rate (*ESR*).
9. Decalcification in histopathology.
10. Bleeding time and clotting time.
11. Hemoglobin estimation methods .
12. Dehydrating agents used in histopathology.
13. Compound microscope.
14. Physical examination of urine
15. Quality control in Hematology

**III. SHORT Answers**

**(10x2=20)**

16. Poikilocytes.
17. Draw diagram of eosinophil & label.
18. Name two clearing agents.
19. Two uses of formalin.
20. Name two crystals in urine.
21. Two methods of haemoglobin estimation.
22. Expand DPX and write one use.
23. Name two hemoparasites
24. Mention 2 types of microtome
25. Uses of Neubauer's chamber.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**HEALTH INSPECTOR**  
**QP CODE — 2112**  
**Subject: Paper II**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I. Long Essay — Answer any TWO.**

**2x10=20**

1. What is food adulteration? Give examples for food adulteration. Add a note on prevention of Food Adulteration Act
2. Enlist the intestinal parasites of human beings. Discuss life cycle of Hook worm
3. Enlist the methods of solid waste disposal. Discuss different methods of composting

**II. Write short notes on any TEN**

**10x5=50**

4. Effects of noise pollution on humans
5. Balanced diet
6. Itch mite
7. Food fortification
8. Slow sand filters
9. Rickets
10. Water borne diseases
11. Life cycle of filarial parasite
12. Pasteurization of milk
13. Global warming
14. Mid day meal program
15. Sanitation barrier

**III. Write short answers.**

**10x2 =20**

16. Name two pulses and two cereals
17. Write two symptoms of Vitamin A deficiency
18. Write two symptoms of Vitamin B12 deficiency
19. Nutritional supplementation in ICDS program
20. Bleaching powder
21. Shallow wells
22. Sewage farming
23. Marasmus
24. Food handlers
25. Super chlorination

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**Medical X-Ray Technology**  
**QP CODE — 2123**  
**Subject: Physiology**

**Time : 1. ½ Hrs**

**Max marks: 45**

**I. Long essay - Answer any one.**

**1X10=10**

- 1) Define blood pressure (BP). Give normal range. Describe factors determining BP.
- 2) Describe different lung volumes and capacities.

**II. Short essay - Answer any five**

**5X5=25**

- 3) Name various types of family planning methods.
- 4) Explain the functions of cerebrospinal fluid (CSF).
- 5) What is glomerular filtration rate (GFR)? Write the factors regulating it.
- 6) Explain erythropoiesis.
- 7) Write the role of surfactant in breathing.
- 8) Write functions of liver.
- 9) Draw a neat labeled diagram of electrocardiogram (ECG).

**III. Short Answers**

**5X2=10**

- 10) Name the hormones secreted by posterior pituitary.
- 11) Name receptors for hearing.
- 12) Write functions of hydrochloric acid (HCL) in stomach.
- 13) Name two muscle proteins.
- 14) Name the plasma proteins.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**OT TECHNOLOGY**

**Time 3 Hrs.**

**Max. Marks: 90.**

**SECTION – A Anatomy (Write in separate answer book) QP CODE – 2135**

**I. LONG ESSAY ANSWER ANY ONE**

**1 x 10 = 10**

1. Name the parts of Male Reproductive system. Describe Testis in detail.
2. Name the parts of Central Nervous system. Describe spinal cord.

**II. WRITE SHORT NOTES ON ANY FIVE**

**5 x 5 = 25**

3. Oesophagus
4. Uterus
5. Liver
6. Transitional Epithelium
7. Kidney
8. Pituitary gland

**III. WRITE SHORT ANSWERS**

**5 x 2 = 10**

9. Name the parts of tibia bone.
10. Name 3 coverings of Brain.
11. Name 2 arteries of upper limb.
12. Name the parts of small intestine.
13. Name the parts of eyeball.

**SECTION – B, Physiology (Write in separate answer book) QP CODE – 2136**

**I. LONG ESSAY**

**1 x 10 = 10**

- 1) Draw a neat labeled diagram of Neuron and write about functions of Autonomic Nervous system.

**II. WRITE SHORT NOTES ON ANY FIVE**

**5 x 5 = 25**

- 2) Heart sounds
- 3) Bile Juice
- 4) Regulation of body temperature
- 5) Maintenance of Equilibrium
- 6) Spleen and their functions

**III. WRITE SHORT ANSWERS**

**5 x 2 = 10**

- 7) Parts of conducting system of heart
- 8) Portal circulation
- 9) Constituents of Gastric juice
- 10) Micturition
- 11) Name any 2 types of Muscle

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**MEDICAL RECORD TECHNOLOGY**  
**Subject: Hospital Statistics & Biostatistics**  
**QP CODE — 2145**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I. Long Essays. Answer any THREE 3x10=30**

1. Draw Standard Normal Curve. Explain the characteristics and uses in Biostatistics.
2. What are the measures of Dispersion? Write a brief note on Standard Deviation and its uses.
3. What is Sampling. Enumerate various types. Add a note on Cluster Sampling.
4. What is Data. Write briefly on Tabulation and Presentation of Data.

**II. Write briefly on any TEN. 10x5=50**

5. Alpha-Index Cards
6. Computerisation of Hospital Data
7. Bed Turnover Ratio
8. In-patient Statistics
9. Notification of Births and Deaths
10. Uses of Hospital Statistics
11. Queing Theory
12. Admission and Discharge analysis
13. Secondary Data
14. Organisation of Medical Records Department
15. Role of Statistician in Medical Records.
16. Record Linkage

**III. Write briefly on any Five. 5x2=10**

17. Uses of Biostatistics
18. Name two common mental health conditions
19. Histogram
20. t-test
21. Medical Audit
22. Correlation

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DIALYSIS TECHNOLOGY**

**Time 3 Hrs.**

**Max. Marks: 90.**

**SECTION – A Anatomy (Write in separate answer book) QP CODE – 2155**

**I. LONG ESSAY— ANSWER ANY ONE 1 x 10 = 10**

1. Name the parts of Alimentary system. Describe liver in detail.
2. Name the parts of Respiratory system. Describe right lung in detail.

**II. WRITE SHORT NOTES ON ANY FIVE 5 x 5 = 25**

3. Histology of cartilage
4. Uterus
5. Thyroid gland
6. Kidney
7. Spleen
8. Spinal cord

**III. WRITE SHORT ANSWERS 5 x 2 = 10**

9. Name the parts of central nerves system.
10. Name any two muscles of lower limb.
11. Name bones forming the shoulder Joint.
12. Name two endocrine gland.
13. Name any two veins of the body.

**SECTION – B Physiology (Write in separate answer book) QP CODE – 2156**

**I. Long essay - Answer any one. 1X10 =10**

- 1) Explain the Conducting system of the heart in detail
- 2) Define.G.F.R and explain the factors affecting glomerular filtration rate(GFR)

**II. Short essay - Answer any five 5X5=25**

- 3) Functions of the Hypothalamus
- 4) Functions of saliva
- 5) Liver functions
- 6) Blood groups
- 7) Insulin
- 8) Spermatogenesis

**III. Short Answers 5X2=10**

- 9) Pulse
- 10) Plasma proteins
- 11) Erythrocyte Sedimentation Rate (*ESR*).
- 12) Normal values of a) Sodium b) Potassium
- 13) Normal Hemoglobin value range in Male and Female.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**DENTAL MECHANICS**

**Time : 1.1/2 Hrs.**

**Max. Marks : 45**

**Section- A, General Biochemistry (Write in separate answer book)**

**QP code - 2185**

**I. Long Question - Answer any ONE**

**1 x 10 = 10**

1. Define Lipids. Classify them with suitable examples. Add a note on its functions in our body. (2+5+3=10)
2. Balanced diet and malnutrition disorders. (5+5=10)

**II. Write short notes on any THREE**

**3x5 = 15**

3. Functions of calcium.
4. Fluorosis
5. Special diet in maxillofacial injury cases
6. Composition of saliva

**Section- B, Radiology (Write in separate answer book)**

**QP code - 2186**

**I. Write short notes:**

**4x5 = 20**

1. Fundamental and elementary Principles of Dental Radiology.
2. Processing and Fixing solutions.
3. Hazards of Radiation and protection against it.
4. OPG (Orthopantomogram).

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**II YEAR DIPLOMA IN / III YEAR CERTIFICATE COURSE IN**  
**MEDICAL RECORD TECHNOLOGY**  
**Subject: Medical Surgical Coding**  
**QP CODE – 3144**

**Time 1 Hrs.**

**Max. Marks: 20.**

**I. ANSWER ANY FOUR QUESTIONS**

**4X5= 20**

1. What is coding and explain design of ICD-10
2. Explain the Dagger and Asterisk system
3. Write the arrangement of the Alphabetical Index
4. Explain the structure of codes
5. Explain the main basic steps of coding

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY – 2018**  
**Common paper for all First Year Certificate courses**  
**ENGLISH**  
**QP CODE -1104**

**Time 1.1/2 Hrs.**

**Max. Marks: 45.**

**I. WRITE AN ESSAY ON ANY ONE OF THE FOLLOWING 15 X 1=15**

- 1) My favourite game
- 2) First Aid

**II. ANSWER ANY ONE 10 X 1=10**

- 3) Write a letter to your Parents asking them to come to your college day celebration.
- 4) Write a letter to your Principal asking him for 3 days leave as you want to attend your brother marriage

**III. WRITE THE OPPOSITE GENDER OF 5X1=5**

- 5) King                  6) Gentleman                  7) Dog                  8) Son                  9) Hero

**IV. WRITE THE OPPOSITE OF THE FOLLOWING 5X1=5**

- 10) Rich                  11) Hot                  12) Good                  13) Legal                  14) Few

**V. WRITE THE SENTENCES USING THE FOLLOWING 5X1=5**

- 15) In front off
- 16) Please
- 17) Moreover
- 18) Because
- 19) As soon as

**VI. FILL IN THE BLANKS 5X1=5**

- 20) The table is\_\_\_\_\_ the room
- 21) I like you better \_\_\_\_\_ him
- 22) He is rich \_\_\_\_\_he is not happy
- 23) Beware \_\_\_\_\_dogs
- 24) Sita & Rama \_\_\_\_\_to the forest.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**Medical Laboratory Technology**  
**QP CODE — 2105**  
**Subject: Microbiology**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I. Long assay (answer any two)**

**2 x 10 = 20**

1. Draw a neat labelled diagram of bacterial cell. Describe in detail about cell wall
2. What are culture medias, classify them. Write in detail on ingredients, preparation, storage and uses of blood agar.
3. What is sterilization, classify different types of sterilization. Write in detail about Hot air oven.

**II. Write short notes (any ten)**

**10 x 5 = 50**

4. Louis Pasteur
5. Active immunity
6. Autoclave
7. Antibody
8. Robertson cooked meat media
9. Bacterial Flagella
10. Grams stain
11. Handling and care of Microscope
12. Washing of Glass wares
13. Sources of infection
14. Bacterial growth curve
15. Collection of blood sample for blood culture

**III. Write short answers**

**10 x 2 = 20**

16. Name two chemical disinfectants
17. Inspissation
18. Name two transport media
19. Name two Gram positive cocci
20. How do you Demonstrate bacterial capsule
21. Name 2 examples for Cold sterilization
22. Name two catalase positive organisms
23. Name two killed vaccines
24. Biological controls for sterilization
25. Labelled diagram of bacterial spore

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**HEALTH INSPECTOR**  
**QP CODE — 2113**  
**Subject: Paper III**

**Time 3 Hrs.**

**Max. Marks: 90.**

**I. Answer Any TWO. 2x10=20**

1. Define epidemic, enumerate the steps in the investigation of epidemic.
2. Describe the life cycle of Aedes mosquito. What are the disease transmitted by Aedes mosquito. How do you control breeding of Aedes mosquito
3. How does Tuberculosis spread? What preventive measures do you recommend in a house with a small child of 3 years?

**II. Short Notes on any TEN. 10x5=50.**

4. Medical Officer in a Primary Health Center (PHC)
5. Epidemiological Triad
6. Role of Health Inspector
7. Infant Mortality Rate
8. Low Birth Weight
9. Pulse polio programme
10. Reservoir of infection
11. Cold chain system in Primary Health Center.
12. Universal Health Coverage
13. Itch mite
14. First Aid for a cut on finger
15. Mean or average

**III. Write Short Answers. 2x10=20.**

16. Pie Chart
17. Isolation.
18. Risk factors for Cancers
19. Death Registration
20. BCG Vaccine
21. International Red Cross
22. World Health Day
23. Blood Bank Visit
24. Live vaccine
25. Air Pollution

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION FEBRUARY - 2018**  
**I YEAR DIPLOMA IN / II YEAR CERTIFICATE COURSE IN**  
**Medical X-Ray Technology**  
**QP CODE — 2124**  
**Subject: Pathology**

**Time : 1. ½ Hrs**

**Max marks: 45**

**I. LONG ESSAY: Answer any one:**

**(1x10=10)**

1. Define necrosis. Describe different type of necrosis with examples.
2. Define infarction. Write the risk factors, morphology and complications of myocardial infarction.

**II. SHORT ESSAY: Answer any Five:**

**(5x5=25)**

3. Kwashiorkor
4. Thrombosis
5. Pleural effusion
6. Thyrotoxicosis
7. Fibroadenoma
8. Fatty liver
9. Hydronephrosis

**III. SHORT NOTES:**

**(5x2=10)**

10. Write any 2 Cardinal signs of inflammation
11. Name 2 causes for liver cirrhosis
12. Write two differences between transudate and exudate
13. Name 2 causes for cell injury.
14. Give 2 examples of hyperplasia

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