

**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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 digestion and absorption of carbohydrates.
- 2) Describe abnormal constituents of urine.
- 3) Describe the liver function tests.

**II Write short notes on any TEN**

**10x5 = 50**

- 4) Explain formation of creatinine
- 5) Semi auto analyzer
- 6) Ketone bodies
- 7) Enzyme linked immune sorbent assay (ELISA)
- 8) External quality control
- 9) Constituents of gastric juice
- 10) GTT(Glucose tolerance test)
- 11) Cardiac Profile test
- 12) Urea cycle
- 13) What is Chromatography? Write its applications.
- 14) Glycogenesis
- 15)Recording of patients data

**III Write short answers**

**10 x 2 = 20**

- 16)Rothera's test
- 17)Specific gravity of urine
- 18)Clearance test
- 19)Normal range of electrolytes
- 20)Write two uses of Ion selective electrode (ISE)
- 21)Two applications of electrophoresis
- 22)Name two enzymes of lipid digestion
- 23)Normal range of serum urea & serum creatinine
- 24)Name the lipid profile tests
- 25)Reagent kits

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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) Describe epidemiology, clinical features and management of measles. Write a note on its prevention.
- 2) Enumerate mosquito borne diseases. Write in detail on antivector measures.
- 3) Enlist the major non-communicable diseases in India. Write risk factors for Hypertension.

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

**10 X 5 = 50**

- 4) First Aid in dog bite.
- 5) Revised National Tuberculosis Control Program (RNTCP).
- 6) Sexually transmitted disease.
- 7) Immunisation Schedule.
- 8) Causes of blindness in India.
- 9) Causes and prevention of accidents in industry.
- 10) Iceberg phenomenon of disease.
- 11) Three Tier health care delivery System in health care.
- 12) National Pulse polio Immunisation programme.
- 13) Hazards of obesity.
- 14) Health problems in urban area.
- 15) Primary prevention of diarrhoeal diseases.

**III. Write short answers**

**10 X 2 = 20**

- 16) Exclusive breast feeding.
- 17) Cold chain.
- 18) Anganwadi worker.
- 19) Role play.
- 20) Hazards of smoking.
- 21) Causes of domestic accidents.
- 22) Define epidemiology.
- 23) Functions of family.
- 24) Rehabilitation in Leprosy.
- 25) Composition of Oral Rehydration Solution (ORS).

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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) What are Grids? How they are classified? Discuss in detail structure and mechanism of moving Grids.
- 2) What are radiation hazards? Discuss about radiation protection of patients, general public and technicians.
- 3) Draw a neat labelled diagram of Rotating anode x-ray tube, add a note on Production of x-rays

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

**10X5=50**

- 4) Photographic effect.
- 5) Latent image.
- 6) Tube rating chart.
- 7) Inverse square law.
- 8) Cathode of X-Ray tube.
- 9) Barium swallow.
- 10) Intravenous Pyelogram (IVP).
- 11) Developer solution.
- 12) Structure of single coated film.
- 13) Dry bench.
- 14) Hangers.
- 15) Digital radiography.

**III. WRITE SHORT ANSWERS**

**10x2=20**

- 16) Atom.
- 17) Diode.
- 18) Collimator.
- 19) Beta decay.
- 20) What is Fluoroscopy?
- 21) Barium sulphate.
- 22) Fixer.
- 23) Secondary radiation.
- 24) Radiographic Contrast.
- 25) Dosimeter.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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. What are the different preparations of Lignocaine with percentages available and their uses? Write in detail about Bupivacaine.
2. Enumerate different types of anaesthesia circuits with diagrams. Describe Bains Circuit.
3. Classify Analgesics (Narcotics & Non-narcotics). Write in detail about Fentanyl.

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

**10X5=50**

4. Antiarrhythmics.
5. Bronchodilators.
6. Muscle relaxants.
7. Electrocardiography (ECG)
8. Induced Hypothermia.
9. Acupuncture Anaesthesia.
10. Precautions in managing HIV case.
11. Adrenalin.
12. Isoflurane
13. Pain pathway.
14. Balanced Anaesthesia.
15. Patient safety program.

**III. WRITE SHORT ANSWERS**

**10X2=20**

16. Blood components.
17. Reversal of patients after General Anaesthesia.
18. Cryo-anaesthesia.
19. CPR (Cardio-pulmonary Resuscitation).
20. Medico legal aspects of Anaesthesia.
21. Magills Forceps.
22. Sterilization of Instruments.
23. Epidural Needle.
24. Operation Theater Sterilization.
25. Induced Hypotension

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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**

- A. What is the purpose of studying Medical Terminology?
- B. What are the chief sources of Medical Terminology? Give one example for each.
- C. Define word root, combining form and suffixes.
- D. Name the five anatomical divisions of abdomen.
- E. What are the basic rules for building and defining Medical words?

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

**1 x 5=5**

- a) Chlorus      b) Erythros      c) Polios      d) Albus      e) Niger

**III) Write the phobias for the following**

**1x10=10**

- a) Fear of water      b) Fear of doctor      c) Fear of Blood      d) Fear of Death
- e) Fear of Society      f) Fear of Self      g) Fear of Pain      h) Fear of Vehicle
- i) Fear of Lies      j) Fear of Dogs

**IV) Write the meaning for the following**

**1x15=15**

- 1) ante
- 2) de                      9) hand
- 3) dis                    10) tear
- 4) intra                11) bis
- 5) protusion          12) ecto
- 6) a falling            13) dilatation
- 7) rupture            14) stabalising
- 8) suture              15) hip bone

**V) Match the following**

**1x5=5**

- 1. Tri                      Two
- 2. Deca                  Eight
- 3. Unus                  Three
- 4. Duo                    Ten
- 5. Octo                   One
- One & Half

**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**Q P CODE 3141 MEDICAL TERMINOLOGY**

**VI) Write the correct medical term**

**1x10 = 10**

- a) Aspiration of pleural cavity
- b) Removal of ovary
- c) Fixation of tendon to the end of the bone
- d) Incision into kidney for removal of stones
- e) Pain in the joints
- f) Destruction of muscular tissue
- g) Hardening of the gland
- h) Crushing of fetal head in dystocia
- i) Inflammation of the lips
- j) Softening of cartilage

**VII) Differentiate the following terms**

**1x5=5**

- a) Antiseptic and Aseptic
- b) Corneal and cranial
- c) Palpitation and Palpation
- d) Lymphadenitis and Lymphangitis
- e) Ileum and Ilium

**VIII) Define the following**

**1x10=10**

- 1. Osteodystrophia
- 2. Cholecystitis
- 3. Cholangitis
- 4. Hysterectomy
- 5. Metrophlebitis
- 6. Osteoma
- 7. Nephrolithotomy
- 8. Proctoscopy
- 9. Pyelonephritis
- 10. trachelorrhaphy

**IX) Define the following**

**1x5=5**

- 1. Odontology
- 2. Dermatologist
- 3. Gynaecologist
- 4. Gastroenterology
- 5. Geriatrics

**X) Expand the following abbreviations**

**1x10=10**

- |            |             |
|------------|-------------|
| 1. A.O.D.M | 2. U.T.I    |
| 3. K.U.B   | 4. R.O.M    |
| 5. C.H.D   | 6. M .D.P   |
| 7. C.P.R   | 8. S.A.R.S  |
| 9. A.I.O.N | 10. L.S.C.S |

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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) Dialysate and delivery system
- 2) Complications during dialysis and their management
- 3) Disinfection of hemodialysis machine

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

**10X5=50**

- 4) Assesment of adequacy of hemodialysis
- 5) Dialyser resale
- 6) Hemodiafiltration
- 7) Procedure of initiation of dialysis
- 8) Monitors and alarms in hemodialysis
- 9) Anticoagulation
- 10) Bacteriology of hemodialysis
- 11) Sterilization
- 12) Sampling in dialysis patients
- 13) Management of anemia in dialysis
- 14) Catheter related blood stream infection
- 15) Aseptic filling of drains and medication port

**III) WRITE SHORT ANSWERS**

**10X2=20**

- 16) Types of cannulation
- 17) Types of erythropoietin
- 18) Two indications to start dialysis
- 19) Name two antihypertensives
- 20) Normal calcium and phosphorous levels
- 21) Two causes of chronic kidney disease
- 22) Define conductivity and normal value
- 23) Two causes of chills in dialysis
- 24) Tyes of arterio-venous a-v cannulation
- 25) Two causes of muscle cramps

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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. Retinoscopy — definition , stages , procedure and prescription.
2. Disinfection of operating theatre .
3. Explain in brief of all steps of cataract surgery.

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

**10 x 5 =50**

4. Importance of consent before any intervention in ophthalmology.
5. Mention some anomalies of lid position. And features of entropion.
6. Classification of squint and how to diagnose squint.
7. Autoclave.
8. Trichiasis and its management.
9. Straddling method in retinoscopy
10. Slit lamp — parts and uses.
11. Procedure of schiotz tonometer.
12. Name all instruments used for cataract surgery.
13. Preliminary work up before trabeculectomy.
14. Different modes of administration of drugs in ophthalmology.
15. Failed DCR (dacryocystectomy).

**3. WRITE SHORT ANSWERS.**

**10 x 2 =20**

16. Indications of MMC(mitomycin-C) in pterygium surgery .
17. Focimeter.
18. What is RAPD and how to check RAPD.
19. Indications of enucleation.
20. Advantages of fundus examination with 90D over ophthalmoscope.
21. Indications for pterygium surgery.
22. Name various tonometers.
23. Types of keratometer.
24. Placido disc
25. Name convergence anomalies

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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) Describe in detail the principles of teeth arrangement

**II. WRITE SHORT NOTES**

**5 X 5 =25**

- 2) Compensatory curve
- 3) Fabrication of special tray
- 4) Cast preparation and trimming
- 5) Protrusive balance
- 6) Compression moulding technique

**III. WRITE SHORT ANSWERS**

**5 X 2 =10**

- 7) Beading and Boxing
- 8) Ceramic teeth
- 9) Curing cycle
- 10) Rebasing
- 11) Splints

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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 and classify calculus. Describe various modes of attachment of calculus to tooth surface.

**II. WRITE SHORT NOTES**

**5X5=25**

2. Stages of dental plaque formation
3. Dental stains
4. Clinical features of chronic periodontitis
5. Periodontal abscess
6. Objectives of dental hygiene

**III. WRITE SHORT ANSWERS**

**5x 2=10**

7. Ultrasonic scalers
8. Topical fluoride application
9. Dental floss
10. Periodontal pocket
11. Oral cancer

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**CERTIFICATE COURSE**

**TIME 1.1/2 HRS.**

**MAX. MARKS: 45.**

**QP CODE — 1101**  
**PHYSICS**

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

**10X1=10**

- 1) State Newton's laws of motion. Explain law of conservation of energy.
- 2) What is PN junction? Explain p-type and n-type semiconductor.

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

**5X5=25**

- 3) Work
- 4) Lens
- 5) sound
- 6) Electromagnetic induction
- 7) Radioactivity
- 8) Current
- 9) Coulomb's law

**III. WRITE SHORT ANSWER**

**5X2=10**

- 10) Reflection of light
- 11) Viscosity
- 12) Photoelectric effect
- 13) Fundamental unit
- 14) Velocity

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH – 2017**  
**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 Excretory system. - 2. Write in detail about Kidney  
a) Coverings b) Surfaces c) Borders d) Relations e) Blood supply 1+1+1+3+1
- 2) Describe the surfaces and borders of Heart. Write in detail about Right Atrium

**II. Write Short Essays Any 5**

**5 x 5 = 25**

- 3) Right Lung
- 4) Histology of Hyaline cartilage
- 5) Supra renal gland
- 6) Large Intestine
- 7) Uterus
- 8) Gluteus maximus
- 9) Radial artery

**III. Write Short Answers**

**5 x 2 = 10**

- 10) Name the Tarsal bones
- 11) Name 3 Salivary glands
- 12) Name 4 long bones
- 13) Name 4 muscles of Arm
- 14) Name 4 lymphoid tissue in the body

**QP CODE – 2102**

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

**I. Long Essay – Answer any ONE**

**1 x 10 = 10**

- 1) Describe the morphology and functions of white blood corpuscles. (5+5)
- 2) Draw a labeled diagram of Nephron. Describe the functions of the different parts of nephron. (5+5)

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

**5 x 5 = 25**

- 3) Composition and functions of saliva.
- 4) Name posterior pituitary hormones. Explain their actions.
- 5) Describe the transport of carbon dioxide in the blood.
- 6) Draw a neat labeled diagram of E.C.G.
- 7) Refractory errors of Eye.
- 8) Cerebrospinal Fluid.

**III. Write short answers**

**5 x 2 = 10**

- 9) Name any two lung volumes.
- 10) Name any two contraceptive methods in males.
- 11) Write the normal values of a) pulse rate b) blood pressure
- 12) Name any two functions of skin.
- 13) Name any two types of anaemia.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH – 2017**  
**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) What is Atom? Explain Structure of atom with neat labelled diagram.
- 2) What is Anode? What are the types of anode? Discuss about Rotating anode with neat diagram.

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

**5X5=25**

- 3) Properties of X-Rays.
- 4) Rectification.
- 5) Tube rating chart.
- 6) Differentiate between Conductors and insulators.
- 7) Space charge.
- 8) Transformer.

**III. WRITE SHORT ANSWERS**

**5x2=10**

- 9) Inverse square law.
- 10) Triode.
- 11) Kilovoltage peak (KVP).
- 12) Potential difference.
- 13) What is fluroscence.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH – 2017**  
**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. Explain the action of Xylocaine in spinal anaesthesia. Write in detail about administering spinal anaesthesia.
2. What are the various methods of sterilisation & discuss in detail about autoclaving.
3. Describe the role of OT technicians in Day care surgery

**II WRITE SHORT NOTES ON ANY TEN**

**10 X5 = 50**

4. Harmonic scalpel
5. ambulatory surgery
6. Vacuum suction
7. Central sterile supply department (CSSD)
8. Electrocautery
9. Informed consent
10. Specimen preservation
11. Doctor- patient relationship
12. Laparoscopic surgery
13. Osteomyelitis
14. Wound infection
15. Nutrition in postoperative patient

**III WRITE SHORT ANSWERS**

**10 X2 = 20**

16. Bioburden
17. Draping
18. Tubectomy
19. Ring block
20. Tracheostomy
21. Non-absorbable suture materials
22. Dimensions of OT tables
23. Humby's knife
24. Ryle's tube
25. Lithotomy position

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH – 2017**  
**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) Write in detail about the Organisation and Management of Medical Records Department?
- 2) Name the different types of registers maintained in Medical Records Department with specifications ?
- 3) Define Warrant? Explain the different types of Search Warrants?

**II. WRITE SHORT NOTES ON ANY TEN. 10 X 5 = 50**

- 4) Explain the Filing rules & Procedure
- 5) Write in brief about the functions of Medical Records Department?
- 6) Retention period of Medical Record?
- 7) Discuss about the Advantages & Disadvantages of Serial Numbering System?
- 8) Write about the five objectives of Form Control Programme?
- 9) Cognizable and Non- Cognizable offence?
- 10) Movable and Non movable properties?
- 11) What is the procedure followed in case of arrest without warrant by Police Officer?
- 12) Production of Document?
- 13) What are the contents of the Birth and Death Register?
- 14) Write in detail about the procedure to follow for preparing summons record for court?
- 15) Define characteristic of good Medical Records?

**III. WRITE SHORT ANSWERS. 10 X 2 = 20**

- 16) Out Patient Department (OPD)
- 17) Disease Index Card
- 18) Discharge Summary
- 19) Post Mortem
- 20) Return of Document
- 21) Government Pleader
- 22) Public Servant
- 23) Alpha Index Card
- 24) Internal Audit
- 25) Tracer Card

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH – 2017**  
**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 the Hormones secreted by Pituitary gland. Write briefly on Oxytocin.
2. Classify Antibiotics based on their Mechanism of Action. Write 2 indications and 2 adverse effects of Tetracycline.

**II WRITE SHORT NOTES ON ANY FIVE** **5X5=25**

- |                              |   |
|------------------------------|---|
| 3. DPT Vaccine.              | 4. Diazepam.                              |
| 5. Pantoprazole.             | 6. Warfarin.                              |
| 7. Local Anaesthetic agents. | 8. Sub Cutaneous route of administration. |
| 9. Insulin Preparations.     | 10. Vitamin C.                            |

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

- |                               |                           |
|-------------------------------|---------------------------|
| 11. Phenol.                   | 12. Name 2 tranquilizers. |
| 13. Name 2 chelating agents.  | 14. Name 2 Analgesics.    |
| 15. Name 2 De-worming agents. |                           |

**QP CODE – 2152**

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

**I) LONG ESSAYS-ANSWER ANY ONE** **1X10=10**

- 1) Anti coagulation Methods in Hemodialysis
- 2) Monitoring of patients in Hemo dialysis

**II) SHORT NOTES ON ANY FIVE** **5X5=25**

- 3) Write about water treatment plant.
- 4) Anatomy and physiology of artificial kidney
- 5) Central venous catheter complication
- 6) Washing of accessories in hemodialysis
- 7) Dry weight and its importance
- 8) Alarms and its importance

**III) WRITE SHORT ANSWERS (any five)** **5X2=10**

- |   |  |
|---|--|
| 9) Intradialytic hypertension                       | 10) Two types of dialysers               |
| 11) Dialysis access                                 | 12) Normal albumin and creatinine levels |
| 13) Normal body water distribution                  |  |
| 14) Two complications of central venous catheters . |  |

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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. Aqueous humour — production and drainage with diagram.
2. Retinoscopy — prerequisites and procedure .
3. Describe visual pathway with neat diagram

**II. SHORT ESSAYS .      10 X 5 =50**

4. Define visual acuity and what is the meaning of 6/60 in snellen's visual acuity chart.
5. Procedure of estimating visual field.
6. Explain the technique to find power and axis of cylinder.
7. Methods of measurements of inter pupillary distance.
8. Types of bifocal spectacles and advantage of executive bifocal.
9. Duochrome test .
10. Write a short notes on care and maintenance of contact lenses.
11. Treatment options for aphakia.
12. Structures forming anterior chamber angle.
13. Spectacles
14. Anisometropia
15. Decentring of iols

**III. WRITE SHORT ANSWERS      10X2=20**

16. Types of spectacles frame structure.
17. Problems during retinoscopy.
18. Difference between convex and concave lenses.
19. Name the tests used to check binocular single vision .
20. Two Laws of ocular motility.
21. Tests for colour vision .
22. Pilocarpine
23. Worth four dot test.
24. Materials used for spectacles.
25. Mannitol.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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 dental cements. Write the composition, setting reaction and uses of Glass ionomer cement.
- 2) Classify gypsum products and describe in detail about type II gypsum product.

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

**5 X 5 25**

- 3) Tarnish and Corrosion
- 4) Denture base resins
- 5) Duplicating materials
- 6) Gypsum bonded investment
- 7) Tray materials
- 8) Types and uses of flux
- 9) Base metal alloys

**III. WRITE SHORT ANSWERS**

**5 X 2 =10**

- 10) Electroplating
- 11) Impression compound
- 12) Niti wires
- 13) Divestment
- 14) Soldering

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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 temporomandibular joint
2. Describe facial nerve

**II Short essays (any 2)**

**2X5 =10**

3. Palatine tonsil
4. Parotid gland
5. Draw a labeled diagram of tooth

**III Short answers**

**3x2=6**

6. Give the sensory nerve supply of tongue
7. Name the muscles of mastication
8. What are the parts of mandible bone?

**Q.P.CODE-2182**

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

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

**4 X 4=16**

1. Functions of middle ear .
2. Composition and function of gastric juice.
3. Draw a neat labeled diagram of a cell.
4. Hypoxia
5. Composition and function of blood
6. Functions of thyroid hormones.

**II. Write short answers**

**2 X 2=4**

7. Name two bile salts.
- 8 .Normal values of BP and pulse

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**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 parts of nervous system. Describe cerebrum
2. Name parts of gastrointestinal tract. Describe stomach
3. Name parts of male reproductive system. Describe testis

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

**10x5=50**

4. Gall bladder
5. Transverse section of compact bone
6. Right lung
7. Adrenal gland
8. Right kidney
9. Elastic cartilage
10. Coronary arteries
11. Trachea
12. Transitional epithelium
13. Appendix
14. Uterus
15. Meninges of brain

**III. Short answers:**

**10x2=20**

16. Name parts of Fallopian tube
17. Name appendages of skin
18. Name 4 bones of upper limb
19. Name 2 muscles of thigh
20. Name 2 muscles of abdomen
21. Name 4 endocrine glands
22. Name the components of connective tissue
23. What are the bones forming shoulder joint
24. Name 2 branches of aorta
25. Mention 2 differences between skeletal and smooth muscle

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Discuss Major and minor crossmatching. Add note on coob's crossmatching.
2. Discuss in detail about semen analysis. Write normal values & terminologies used in semen analysis.
3. Name different sites of bone marrow aspiration, prepaton of bone marrow aspirate and procedure of staining of bone marrow smears

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

**10x5=50**

- 4 Direct Coomb's test
- 5 Activated partial Thromboplastin time
- 6 Sputum examination
- 7 Blood grouping
8. Steps in Tissue processing. Add note on clearing
- 9 Donor screening & selection in blood bank
- 10 Triple blood bag
- 11 What is Hematoxylin? Mention the types of Hematoxylin.
- 12 Periodic acid Schiff stain
- 13 How do you prepare paraffin block
- 14 Transfusion reactions
- 15 Sickling test
- 16 Osmotic fragility test
- 17 Physical examination of CSF

**III. Short Answer :**

**10x2=20**

- 18 Methods of bleeding time estimation
- 19 Preparation of packed cells in blood bank
- 20 What is differentiation & blueing
- 21 Name 2 uses of frozen section
- 22 Name different types of Hematoxylin
- 23 Name 4 special stains in histopathology
- 24 Name different mounting media.
- 25 Rapid H&E staining

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) What are the causes of High Infant mortality? Write the services included in the Child survival and safe motherhood programme.
- 2) Define Health education? Write different methods of Health education.
- 3) What is a balanced diet? Write the components of balanced diet.

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

**10x5=50.**

- 4) Contraindications of Oral contraceptive pills.
- 5) Personnel hygiene.
- 6) Write the different modes of transmission of diseases.
- 7) Secondary prevention with modes of intervention.
- 8) Mid day meal programme.
- 9) Scabies.
- 10) Anopheles mosquito.
- 11) Prevention of food adulteration act .
- 12) Chlorination of water.
- 13) Contraindications for contraceptive pills.
- 14) Under five clinics.
- 15) Two way method of health education.

**II. Write Short Answers.**

**10x2=20**

- 16) Primary case.
- 17) Iron and folic acid tablets.
- 18) Food fortification.
- 19) UNICEF.
- 20) Septic tank.
- 21) Diseases spread by House fly.
- 22) Components of Cold Chain.
- 23) ASHA.
- 24) Risk factors of Hypertension.
- 25) Types of ventilation.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 Barium meal? Discuss in detail about procedure and complications of barium meal.
- 2) What is Urethrography? Discuss about procedure and complications of ascending urethrography (ASU).
- 3) What is Digital Radiography? Add a note on mechanism and advantages over Computed radiography (CR).

**II WRITE SHORT NOTES ON ANY TEN** **10 x 5 = 50**

- 4) Barium enema.
- 5) Axial view of Knee.
- 6) Chest lateral decubitus view.
- 7) Oral contrast agents.
- 8) Differentiate between Computed tomography (CT) & Magnetic resonance imaging (MRI).
- 9) Mastoid view.
- 10) Radiation protection.
- 11) X-Ray Films.
- 12) Half life.
- 13) Cystogram.
- 14) C T Cisternography.
- 15) Dark room entrance.

**III. WRITE SHORT ANSWERS** **10 x 2 = 20**

- 16) Film fog.
- 17) Film loading.
- 18) Mastoid cylinder.
- 19) Urograffin
- 20) What is Compton Effect?
- 21) Dosimeter.
- 22) Wet bench.
- 23) Ohms law.
- 24) Scout film.
- 25) Carpal bones.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Describe the short term and long term management of burns patient.
2. Describe incisions in laparotomy. Discuss in detail about emergency laparotomy.
3. Discuss about the post-operative complications. Add a note on complications after thyroidectomy.

**II. WRITE SHORT NOTES ON ANY TEN** **10x5=50**

4. Appendicectomy
5. Below knee amputation
6. Intramedullary nail fixation of fractures
7. Lower segment caesarean section (LSCS)
8. Tonsillectomy
9. Psychological support for breast surgery patients
10. Bronchoscopy procedure
11. Intercostal drainage (ICD)
12. Foley's catheterisation and its complications
13. Advantages of laparoscopic surgeries
14. Enumerate the common causes of Haematemesis
15. Emergency procedure for head injuries

**III WRITE SHORT ANSWERS** **10 X2=20**

16. Hand washing technique
17. Radiotherapy
18. Cast application
19. Splenectomy complications
20. Angiogram
21. Haemorrhoidectomy
22. Cardio-pulmonary resuscitation (CPR)
23. Endoscopy
24. Cryosurgery
25. Renal transplantation

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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.**

**2x10=20**

- 1) Classify hospital waste. Discuss the health hazard of the hospital waste.
- 2) Define Management. Describe four major functions of Management in an organization.
- 3) Describe the organization and function of Medical college hospital.

**II. Write briefly on any TEN**

**10x5=50**

- 4) History of hospitals.
- 5) Enumerate various committees of hospital.
- 6) Hospital infection control committee.
- 7) Emergency service department.
- 8) Define planning. Classify plans.
- 9) Dietary department.
- 10) Doctor patient relationship.
- 11) Disaster cycle.
- 12) Health insurance.
- 13) Briefly describe organization of outpatient department.
- 14) Describe the role of medical record department in teaching hospital.
- 15) Corporate hospitals.

**III. Write Short Answers**

**10x2=20**

- 16) Ambulance services.
- 17) Deep burial pit.
- 18) Resources.
- 19) Characteristics of hospital administrator.
- 20) Diagnostic services.
- 21) Procedure adopted in appointing an officer.
- 22) Ways of communication.
- 23) Delegation of power.
- 24) Quality control.
- 25) Under five clinics.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Continuous renal replacement therapy—discuss in detail
- 2) Peritonitis and its management
- 3) Maintenance of records and individual log book

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

**10 x 5 = 50**

- 4) Hemoadsorption
- 5) Therapeutic apheresis
- 6) Composition of dialysis team and their duties
- 7) Immunisation in Hemodialysis (HD) patients
- 8) Anatomy of peritoneum
- 9) Slow continuous ultrafiltration
- 10) Psychological complications in dialysis patients
- 11) Pet test
- 12) Anticoagulation
- 13) Newer Peritoneal Dialysis (PD) Solutions
- 14) Replacement fluid in plasmapheresis
- 15) Hemodiafiltration

**III. WRITE SHORT ANSWERS**

**10 x 2 = 20**

- 16) Two organisms causing peritonitis
- 17) Expand CAPD and CCPD
- 18) Name two antifungals
- 19) Two causes of Cloudy peritoneal fluid
- 20) Name two antihypertensives
- 21) Two endogenous poisons
- 22) Two agents used in disinfection
- 23) Two types Peritoneal Dialysis (PD) catheters
- 24) Tidal Peritoneal Dialysis (PD)
- 25) Exit site infection

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. What is Keratoplasty? What are the indications for Keratoplasty?  
How are the donor corneas collected and preserved?
2. What is legal blindness? Name the causes of preventable blindness.  
Write briefly about vision 20/20.
3. What are the causes of childhood blindness? How does school  
screening help in preventing childhood blindness. How is the school  
screening program organised?

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

**10 x 5 = 50**

4. Consent format for cataract surgery.
5. How can you spread the awareness for eye donation.
6. How can you rehabilitate the blind?
7. What is demography? Write its importance.
8. How are chemical injuries caused? Write the treatment.
9. How will you organize an eye camp.
10. Name some ophthalmic emergencies. What first aid would you give for  
a penetrating eye injury.
11. Surgical records.
12. Write the importance of eye health education.
13. Disease index.
14. Post-op counselling of cataract patient.
15. What is the role of survey of eye diseases in community ophthalmology?

**III. Write short answers**

**10 x2 = 20**

16. What are the causes of treatable blindness?
17. Eye health education in diabetics.
18. What is a target group?
19. Why is eye donation important?
20. Name the conditions that can be screened in a school screening  
program.
21. What is Cardiopulmonary resuscitation (CPR)? When is it done?
22. Name some ophthalmic emergencies.
23. Low vision assessment (LVA).
24. National Programme for Control of Blindness (NPCB).
25. What is epidemiology?

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Define Pontic. What are different types of pontic and discuss the principles of pantie design.

**II WRITE SHORT NOTES**

**5 X 5=25**

- 2) Mention different die systems
- 3) Parts of a surveyor
- 4) Major connectors
- 5) Adams clasp
- 6) Duplicating materials

**III. WRITE SHORT ANSWERS**

**5 X2 =10**

- 7) Hawley's Appliance
- 8) Materials used in maxillofacial prosthesis
- 9) Gingivally approaching clasp
- 10) Refractory cast
- 11) Shaped blockout

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 the prevalence and prevention of periodontal diseases

**II. Write short notes** **5x5=25**

2. Oral hygiene habits
3. Habits and effect on dental structures
4. Child and parent counselling.
5. Dental health education
6. Implication of community water supply on dental health

**III. Write short answers** **2x5=10**

7. Interdental aids
8. Prevention of dental caries
9. Dentifrice
10. Environmental health
11. Oral health in handicapped.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 Watson & Crick model for structure of DNA.

**II. WRITE SHORT NOTES ON ANY FIVE** **5x5=25**

- 3) Radioactive dating.
- 4) Buffer solution and types of buffer solution.
- 5) Tyndal effect.
- 6) Manufacture of Methane.
- 7) Purines and Pyrimidines.
- 8) Acid and Bases.
- 9) Functional properties of enzymes and antibodies.

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

- 10) Half life period.
- 11) Uses of Iodine.
- 12) Types of RNA.
- 13) Why methane is called as Marsh gas.
- 14) Molasses.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Classify Carbohydrates with suitable examples. Add a note on properties of glucose.
2. Explain the factors affecting enzyme activity.
3. Explain the principle, components, procedure and uses of semi automated Biochemistry analyzer.

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

**10 x 5=50**

4. Blood Gas analyzer
5. Atomic weight & molecular weight
6. Polysaccharides
7. Arrangements of Chemicals & Glasswares in Biochemistry lab
8. Isoenzymes
9. Acid-base Titration
10. Dry Chemistry analyzer
11. Single Pan balance
12. Colorimeter
13. Water bath & its uses
14. Diagnostic enzyme markers for Myocardial infarction
15. Functions of calcium

**III WRITE SHORT ANSWERS**

**10X2=20**

16. Benedict's test
17. Difference between serum & plasma
18. Essential fatty acids
19. Micro pipettes
20. Uses of Red & Blue litmus paper
21. Define acid & base with examples
22. Sucrose & lactose
23. Biuret test
24. Primary standards
25. Essential amino acids

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Describe Natural History of a disease, with suitable example.
- 2) Enumerate various portions of digestive system. Describe the structure and functions of stomach.
- 3) Describe role of Cultural factors in health and disease.

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

**10x5=50.**

- 4) Break point chlorination.
- 5) Incidence and Prevalence.
- 6) Integrated Vector control.
- 7) Human Development Index.
- 8) Hormones.
- 9) Anthropometry.
- 10) Iceberg phenomenon of disease.
- 11) Consumer protection act.
- 12) Functions of Blood.
- 13) Ill- effects of alcoholism in the family.
- 14) Socio-economic status.
- 15) Medico social worker.

**III. Write Short Answers.**

**10x2=20.**

- 16) Positive health.
- 17) Pandemic.
- 18) Drug addiction.
- 19) Right atrium.
- 20) Social institutions.
- 21) Culture contact.
- 22) Disease eradication.
- 23) Juvenile Delinquency.
- 24) Role of family in society.
- 25) Any three functions of lung.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Mention the surfaces and borders of Heart. Write in detail about Right Atrium
- 2) Mention the parts of Gastro intestinal system. Write in detail about Liver
- 3) Mention the parts of Female Reproductive System .Write in detail about Uterus

**II Short Notes – answer any three**

**3x5=15**

- 4) Supra renal gland
- 5) Right Lung
- 6) Histology of Bone
- 7) Urinary bladder

**III Short answers**

**5x2=10**

- 8) Name 4 Cranial nerves
- 9) Name 4 Tarsal bones
- 10) Name 4 Muscles of upper limb
- 11) Name 4 Nerves of Lower lib
- 12) Name 4 Bones of face

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Describe the normal physical characteristics & Chemical composition of urine & their significance
2. Describe the formation of urea. Add a note on blood levels & urine levels of urea.

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

**2x5=10**

3. Acid base Balance.
4. Tests for detection of sugar & protein in urine
5. Creatinine clearance test

**III. WRITE SHORT ANSWERS**

**5X2=10**

6. Serum Electrolyte levels
7. Normal Fasting & Post Prandial blood glucose levels
8. Metabolic acidosis
9. Ionization theory
10. Formation of Creatinine

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

**I. ANSWER ANY ONE**

**1 x 10 =10**

- 1) Name any Six commonly used analgesics. Write the therapeutic uses, adverse effects and contraindications of Morphine.
- 2) Name any six commonly used Penicillins. Write the mechanism of action, uses and adverse effects of Penicillins.

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

**2 x 5 =10**

- 3) Atropine
- 4) Oral route of drug administration
- 5) Skeletal muscle relaxants

**III. WRITE SHORT ANSWERS**

**5 x 2 =10**

- 6) Write two drugs used in Tuberculosis.
- 7) Name two antiseptics
- 8) Write two uses of sulfonamides
- 9) Name two Inhalational anaesthetics
- 10) What is drug antagonism?

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

**I. Answer any one**

**1X10=10**

1. Define and classify immunity. Write about innate immunity.
2. Define sterilization. Write in detail about moist heat sterilization.

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

**2X5=10**

3. Normal flora of upper respiratory tract.
4. Bacterial flagella.
5. Robert Koch.

**III. Write short answers**

**5X2=10**

6. Name two chemicals used for disinfection.
7. Name two vaccines.
8. Colour codes for waste segregation and disposal.
9. Name two organisms causing diarrhoea.
10. Name two hospital acquired infections.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Mention the parts of Excretory system in detail  
2) Classify joints and give examples for each
- II. Short Notes – answer any two** **2x5=10**  
3) Liver  
4) Uterus  
5) Histology of Cardiac muscle
- III. Short answers** **5x2=10**  
6) Nucleus  
7) Parts of Large intestine  
8) Name 4 Synovial joints  
9) Name 3 endocrine glands  
10) Name 3 cartilages of Larynx

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

- I. Write short notes on any four** **4x5=20**  
1. Functions of Kidney.  
2. Composition and function of gastric juice.  
3. Draw a neat labeled diagram of cell.  
4. Draw a neat labeled diagram of normal ECG.  
5. Blood transfusion  
6. Functions of thyroid hormones.
- II. Write short answers** **5x2=10**  
7. ESR in males and females  
8. Normal values of hemoglobin and White Blood Cells (WBC) count  
9. Name two lung volumes.  
10. Name two functions of Cerebro Spinal Fluid (CSF).  
11. Menarche and menopause.

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

- I. Long Essay (Answer any one)** **1 x 10= 10**  
1. Define inflammation. Signs of inflammation. Describe different types of inflammation with examples.  
2. Define fracture. Give examples. Add a note on fracture healing.
- II. Short Essay on any two** **2x 5 = 10**  
3. Define emphysema. Write types of emphysema with example  
4. Tuberculosis lung  
5. Add a note on Rheumatoid & Osteoarthritis.  
6. Write a note on carcinoma cervix.  
7. Vitamin D deficiency.  
8. Fibroadenoma breast  
9. Define Necrosis Mention the types of necrosis with examples.
- III. Short Answers** **5x 2 = 10**  
10. Write different types of Renal stones  
11. Mention fate of an thrombus  
12. Write 2 ovarian tumors  
13. Define neoplasia  
14. Write 4 causes for edema

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. What is the normal Blood Glucose level? Explain the factors regulating Blood Glucose level.
  2. Describe the analysis of Abnormal Urine & interpret.
- II. WRITE SHORT NOTES ON ANY FIVE** **5x5=25**
3. Digestion & Absorption of Carbohydrates.
  4. Write the normal range of any five biochemical constituents in blood.
  5. Renal function tests
  6. Chemical composition of normal urine
  7. Colorimeter —Principle & Applications
  8. Procedure for collection of blood sample & Separation of Serum/Plasma
- III. WRITE SHORT ANSWERS** **5X2=10**
9. Test for detection of Urea in urine
  10. Normal serum levels of Sodium, Potassium & Chloride
  11. Blood Buffers
  12. Volume, appearance, colour & pH of normal urine
  13. Benedict's test

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

- I. Long essay** **1\*10=10**
1. Define and classify sterilisation. Discuss in detail the disinfection followed in a haemodialysis unit.
  2. Define and classify hypersensitivity. Write in detail type 1 hypersensitivity.
- II. Write short notes on any five** **5\*5=25**
3. Candidiasis
  4. Universal precautions
  5. Bacteria spore
  6. Standard precautions
  7. Passive immunity
  8. Koch's postulates
- III. Write short answers** **5\*2=10**
9. Name two gram negative cocci
  10. Name four articles sterilized by dry heat
  11. Name four bacteria causing Nosocomial infections
  12. Name two spore forming bacteria
  13. Name two bacterial vaccines

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Layers of tear film and write briefly about dry eye and test done for dry eye evaluation
2. Discuss conjunctivitis , its clinical features and management
3. Classify glaucoma and write briefly on formation and circulation of aqueous humor

**II. Short Essay**

**10 X 5 = 50**

4. Herpes zoster ophthalmicus — clinical manifestation and treatment
5. Worth four dot test
6. Definition and classification of squint
7. Cataract classification and pre operative evaluation
8. Stages and ocular changes in diabetic retinopathy
9. Ocular manifestation of chemical injury
10. Local anesthetics used in eye
11. Vernal keratoconjunctivitis.
12. Goldmann applanation tonometry and types of applanation tonometry
13. Clinical features of cataract
14. Schirmer test
15. Trichiasis causes , clinical features and treatment

**III. Write Short Answers**

**10X2=20**

16. Mention some antiglaucoma drugs
17. Atropine eye drops
18. Mention some corneal degenerations
19. Hess screen test
20. Name some congenital cataract
21. Signs of aphakia
22. Mention some types of tonometry
23. Trichiasis
24. Differential diagnosis of red eye
25. Types of amblyopia

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 Maxillary permanent first molar.
- 2) What are the muscles of mastication. Write in detail about function of masseter muscle

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

**5 X 5 = 25**

- 3) Balanced occlusion
- 4) Morphology of mandibular canine
- 5) Maxillary supporting structures
- 6) Overjet and overbite
- 7) FDI notation of primary and permanent dentition
- 8) Define centric relation and centric occlusion
- 9) Muscles of phonation

**III. WRITE SHORT ANSWERS**

**5 X 2 = 10**

- 10) Name the muscles of tongue
- 11) Incisive papilla
- 12) Dentolabial sounds
- 13) Mid-palatine raphe
- 14) Lateral throat form

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Discuss types steps & complications of wound healing.
2. Write oral manifestation of systemic disease.

**II. Short Essay on any four**

**4x 5 = 20 Marks**

3. Define necrosis? Mention different types of necrosis with examples.
4. Oral thrush
5. Vitamin A deficiency
6. Biomedical waste management
7. Write a note on oral ulcer
8. Pathology & bacteriology of dental cases

**III. Short Answers**

**3x 2 = 6 Marks**

9. Cardinal signs of Inflammation
10. Write clinical signs of vit D deficiency
11. Pyoderma

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

**QP CODE- 2184**

**I. Write short answers**

**5 x 2 = 10**

1. Low molecular weight Heparin.
2. Vitamin C.
3. Ferrous Sulfate.
4. Paracetamol.
5. Tri methoprim.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**I DPT - Section A —PHYSIOLOGY (Write in separate answer book)**  
**Q-P code -2192**

**Time 3 Hrs.**

**Max. Marks: 90.**

**1. Long essay (Answer any THREE)**

**3x10=30**

1. Draw a neat labeled diagram of a nephron .Add a note on the functions of kidney and renal function tests.
2. Describe the composition and function of gastric juice.
3. Name the clotting factors. Explain steps involved in hemostasis.
4. Name the endocrine glands. Add a note on growth hormone.

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

**5x5= 25**

5. Family planning methods in males and females.
6. Hypoxia
7. Draw a neat labelled diagram of neuromuscular junction.
8. Functions of liver
9. Spermatogenesis.
10. Functions of middle ear
11. Anticoagulants

**111. Write short answers**

**5x2=10**

10. Diabetes Mellitus and Diabetes Insipidus
11. Name two types of muscles.
12. Reflex arc
13. Normal value of cardiac output and stroke volume.
14. Name two functions of skin.

**Section B —Biochemistry (Write in separate answer book) 2193**

**I LONG ESSAY- ANSWER ANY ONE**

**10 X1 =10**

1. Draw a neat labeled diagram of Cell and mention two important functions of subcellualr organelles
2. Define and classify enzymes and add a note on coenzymes and Isoenzymes.

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

**1x5=5**

3. Photometry
4. Balanced diet

**III WRITE SHORT ANSWERS**

**5X2=10**

5. Function of vitamin D
6. Disaccharides
7. Hormones in Hypothyroidism
8. Essential fatty acids
9. Collagen.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Classify and describe hypersensitivity reactions.
2. Classify various classes of immunoglobulins. Describe the structure, properties and functions of IgG.
3. Classify enterobacteriaceae. Describe pathogenesis and laboratory diagnosis of E.coli.

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

**10\*5=50**

4. Indole test.
5. Classify clostridium.
6. Catalase test.
7. ASLO.
8. RA.
9. Malignant pustule.
10. Preparation of antibiotic disc.
11. Candida albicans.
12. Herpes simplex virus.
13. Coombs test.
14. Life cycle of entamoeba histolytica.
15. Life cycle and lab diagnosis of ancylostoma duodenal infections.
16. Quality control measures in microbiology

**III. Write short answers**

**2\*10 = 20**

17. C - reactive protein.
18. Name two bacteria which are Indole positive.
19. Hepatitis B vaccine.
20. Name two bacteria causing urinary tract infections.
21. Anaphylaxis.
22. Name two fungal opportunistic infections.
23. Name two DNA virus.
24. Name the two bacteria causing sexually transmitted diseases.
25. Name the parasite causing black water fever.
26. Name the parasite causing elephantiasis.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Describe the levels of health care in India. Describe primary health centre in detail.
- 2) Describe Objective of School health programme in detail.
- 3) Describe Pneumoconiosis in detail.

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

**10x5=50.**

- 4) ESI act.
- 5) Swacch Bharat Abhiyan.
- 6) Planning cycle.
- 7) Causes and prevention of accidents in industry.
- 8) Helmet.
- 9) Vaccine vial monitor.
- 10) Social security.
- 11) Biomedical concept.
- 12) Measures of Central tendency.
- 13) Theories of learning.
- 14) Sickness absenteeism.
- 15) Incidence and Prevalence.

**III. Write Short Answers.**

**10x2=20**

- 16) Stain used for Acid fast bacilli.
- 17) Louse infestation.
- 18) Name the diseases that are eradicated.
- 19) Write four Adverse events following immunisation.
- 20) Oral rehydration salts.
- 21) Name four helminthic infestations.
- 22) Janani suraksha yojana.
- 23) WHO day.
- 24) Breakpoint chlorination.
- 25) Weaning.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) What is Barium meal follows through? Discuss in detail about procedure and complications of Barium meal follows through (BMFT).
- 2) What is C T Scan? Discuss about various parts and mechanism of C T Scan.
- 3) Explain the X-Ray tube structure in detail with neat diagram.

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

**10 x 5 = 50**

- 4) Portable radiography.
- 5) Waters view.
- 6) Chest apicogram.
- 7) IV contrast agents.
- 8) Differentiate between single coated and double coated films.
- 9) Oral cholecystogram.
- 10) Biological effects of radiation.
- 11) X-Ray Cassets.
- 12) Rinsing.
- 13) Cystogram.
- 14) Wet bench.
- 15) T2 weighted image.

**III. WRITE SHORT ANSWERS**

**10 x 2 = 20**

- 16) Rectification.
- 17) Picture Archiving and Communication System (PACS).
- 18) Barium Sulphate.
- 19) Half value layer.
- 20) What is microradiography?
- 21) Centering.
- 22) Cones.
- 23) Stochastic Reaction.
- 24) Doppler.
- 25) Ultrasonography (USG).

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Describe the Role, Advantages & Limitations of computers in Medical Records Department?
- 2) Write in detail the uses of computers in Out Patient (O.P) & In Patient (I.P) registration?

**II. WRITE SHORT NOTES ANY FOUR**

**4X5=20**

- 3) Hard disk
- 4) Floppy Disk
- 5) Display Adapter
- 6) Monitor
- 7) Dongle

**III. WRITE SHORT ANSWERS**

**5X2=10**

- 8) Arithmetic Logic Unit (ALU)
- 9) Kilo Byte (KB)
- 10) Central Processing Unit (CPU)
- 11) Networking
- 12) Local Area Network (LAN)
- 13) Internet

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 the dentist act 1948 and its relation to registration of dental hygienists and dentists.

**II. Write short notes**

**5x5 = 25**

2. Dental specialities
3. Code of ethics
4. Objectives and scope of dentistry
5. Medicolegal issues in dental practice
6. Sterilization of dental instruments

**III. Write short answers**

**2x5 =10**

7. Billing and accounting
8. Material maintenance and supply
9. Appointment and recall system
10. Charting and recording cases
11. Chairside assistance.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**CERTIFICATE COURSE**  
**BIOLOGY**  
**QP CODE 1103**

**Time: 1. ½ hrs**

**Max. Marks: 45**

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

**1x10= 10**

- 1) Draw a neat diagram of male reproductive system and explain spermatogenesis
- 2) Explain Watson and Crick model of DNA with labeled structure

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

**5X5 = 25**

- 3) Write a note on Mitosis
- 4) Digestion of lipids
- 5) Structure of nephron
- 6) T. S of pancreas
- 7) Differences between bone and cartilage
- 8) Fluid connective tissue, blood and lymph
- 9) Urine formation

**III. WRITE SHORT ANSWERS**

**5x2=10**

- 10) Electrophoresis
- 11) Name two diseases caused by viruses
- 12) Causes of cancer
- 13) Fertilization
- 14) Functions of Golgi complex

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 in detail about urine collection, preservation & physical examination.
2. Write preparation of thick & thin blood smear. Write procedure of peripheral smear staining by Leishman's stain.
3. Methods of hemoglobin estimation. Write in detail about Sahli's method & mention its merits and demerits.

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

**(10x5=50)**

4. Reticulocyte staining & count
5. Fixatives used in histopathology. Add a note on formalin
6. Benedict's test
7. Absolute Eosinophil count
8. Anticoagulants
9. Erythrocyte Sedimentation Rate (ESR)
10. Decalcification of tissue
11. Pap stain
12. Neubauer's counting chamber- write neat diagram & mention its uses.
13. Ideal peripheral smear
14. Erythropoiesis
15. Steps in tissue processing

**III. SHORT Answers**

**(10x2=20)**

16. Normal differential leucocytes count
17. Name ketone bodies. Name test to identify ketone bodies.
18. Name 2 dehydrating & 2 clearing agents
19. Name 2 causes of Hematuria. Mention test to detect Hematuria
20. Name 2 mounting media
21. Name 2 cytological fixatives
22. Name 2 types of microtomes
23. Name 2 uses of buffy coat
24. Draw labelled diagram of Eosinophil.
25. Use of Heat Coagulation test

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Mention the parasitic diseases in humans. Discuss the life cycle of Malarial parasite.
- 2) Define Sanitation barrier and discuss its role in prevention of diseases.
- 3) Discuss Protein Energy malnutrition

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

**10x5=50**

- 4) Classify Water borne diseases and control measures.
- 5) Slow sand filters.
- 6) Essential fatty acids.
- 7) First aid in burns.
- 8) Functions of PHC medical officer.
- 9) Food fortification.
- 10) Road to health.
- 11) Prevention of scabies.
- 12) Mid day meal programme.
- 13) Classify Vitamins. How do you prevent Vitamin A deficiency?
- 14) Sources of Air pollution and prevention.
- 15) Anganwadi worker.

**III. Write short answers.**

**10x2 = 20**

- 16) Four Iodine deficiency disorders.
- 17) Primary Immunisation.
- 18) Transmission of Dengue.
- 19) Right atrium.
- 20) Septic tank.
- 21) Types of Family.
- 22) Disease elimination.
- 23) Anopheles mosquito.
- 24) Role of family in society.
- 25) Effects of Radiation

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Draw a neat labeled diagram of heart. Add a note on systemic circulation.
2. Name the endocrine glands .Add a note on the pituitary hormones and their functions

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

**5X5=25**

3. Functions of gastric juice.
4. Errors of refraction
5. Hypoxia
6. Draw a neat labeled diagram of a cell.
7. Cerebro Spinal Fluid (C.S.F).
8. Family planning methods
9. Exchange of gases.

**III. Short Answers**

**5X2=10**

10. Deglutition and mastication
11. Name one male sex hormone and female sex hormone.
12. Name two liver function tests.
13. Name two hormones secreted by thyroid gland.
14. Write normal values of Fasting Blood Sugar (FBS) and Random Blood Sugar (RBS)

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 urinary system. Describe kidney
2. Name parts of gastrointestinal system. Describe liver

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

**5 x 5 = 25**

3. Synovial joint
4. Appendix
5. Uterus
6. Pituitary gland
7. Skin
8. Trachea

**III. WRITE SHORT ANSWERS**

**5 x 2 = 10**

9. Name 2 muscles of larynx
10. Name 4 muscles of lower limb
11. Name parts of Fallopian tube
12. Name the ear ossicles
13. Name the parts of small intestine

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

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

**1 x 10 = 10**

1. Define blood .Write the composition and function of blood.
2. Draw a neat labeled diagram of heart. Add a note on systemic circulation.

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

**5 x 5 = 25**

3. Functions of Thyroid hormone.
4. Pregnancy tests
5. Types of WBCs
6. Erythropoiesis
7. Platelets.
8. Erythrocyte Sedimentation Rate (ESR)
9. Transport of Oxygen and carbon dioxide in blood.

**III. WRITE SHORT ANSWERS**

**5 x 2 =10**

10. Name two clotting factors.
11. Systolic BP and Diastolic BP.
12. Name two types of hypoxia.
13. Name two plasma proteins.
14. Name two refractive errors.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Define Biostatistics and its uses.
- 2) Enumerate Fertility indicators. Add a note on *Net reproduction rate (NRR)*.
- 3) List various Notifiable diseases. Add a note on limitations.
- 4) Explain the Measures of Central tendencies.

**II. Write briefly on any TEN.**

**10x5=50**

- 5) Quantitative data.
- 6) Simple random sampling.
- 7) Net infection rate.
- 8) Incidence and its uses.
- 9) Record linkage.
- 10) Bar chart.
- 11) Census.
- 12) Life table.
- 13) Uses of Health information system.
- 14) Advantages of data presentation by graphs.
- 15) Standard deviation.

**III. Write briefly on any Five.**

**5x2=10**

- 16) Discharge.
- 17) Variable.
- 18) Pictogram.
- 19) Mode.
- 20) Standard error.
- 21) Queue system in OPD.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 urinary system. Describe kidney
2. Name parts of central nervous system. Describe spinal cord

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

3. Testis
4. Pituitary gland
5. Trachea
6. Stomach
7. Elastic cartilage
8. Synovial joint

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

9. Name 4 muscles of lower limb
10. Name the parts of ear
11. Name the parts of colon
12. Name branches of aortic arch
13. Name layers of skin

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

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

- 1) Draw a labeled diagram of Nephron. Describe the functions of the different parts of nephron. (5+5)
- 2) Write the composition and functions of blood. (5+5)

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

- 3) Classify body fluid compartments and give their normal values.
- 4) Renal Function Tests.
- 5) Blood Groups.
- 6) Juxtaglomerular apparatus.
- 7) Write the normal values of Blood pressure. Add a note on regulation of blood pressure.
- 8) Functions of Proximal convoluted tubule of Kidney.
- 9) Plasma Proteins.

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

- 10) Give any two, Non excretory functions of kidneys.
- 11) Write normal values of a) R.B.C Count b) W.B.C Count.
- 12) Write the normal levels of a) Blood Urea b) Serum Creatinine.
- 13) Define Erythrocyte Sedimentation Rate (ESR). What is its Normal value?.
- 14) Mention any two functions of White blood cells.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Explain the basic food chemistry in relation to general & Oral health
2. Describe the role of Carbohydrates, Fats & Proteins in relation to dental & oral health.

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

**3x5 = 15**

3. Test to detect proteinuria
4. Special diet in maxillofacial injury cases
5. Charting of individual diet
6. Test to detect Glucose in urine

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

**QP code - 2186**

**I. Write short notes:**

**4x5 = 20**

- 1 Structure of an atom
- 2 Bisecting angle technique
3. Orthopantomography (O.P.G.)
4. Occlusal radiograph

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**

**I DPT Microbiology**  
**Q.P code -2194**

**Time 3 Hrs.**

**Max. Marks: 90.**

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

**2 x 10 = 20**

1. Enumerate the bacteria causing dysentery. Discuss in detail the laboratory diagnosis of the same
2. Define and classify sterilization. Discuss in detail moist methods of sterilisation.
3. Discuss the pathogenesis and laboratory diagnosis of Malaria

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

**10 x 5 = 50**

4. Explain the laboratory diagnosis of bacterial meningitis
5. Ziehl Neelsen stain
6. Nosocomial infections
7. Bacterial spores
8. Life cycle of *Entamoeba histolytica*
9. Dermatophytes
10. Cultivation of virus
11. Routes of transmission of HIV virus
12. Antigen
13. Standard precautions
14. Coagulase test
15. Robert Koch

**III. Write short answers**

**10 x 2 = 20**

16. Intradermal tests
17. Give four uses of anaerobic media
18. Name four inclusion bodies
19. Name four hospital acquired infection
20. Name four motile bacteria
21. Name four Hydrogen Sulfide ( $H_2S$ ) producing bacteria
22. Name four acid fast bacilli
23. Name four articles sterilized by autoclave
24. Name four viral vaccines
25. Name four anaerobic bacteria.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 THREE QUESTIONS**

**3X5= 15**

- 1) Explain Main basic rules of Coding?
- 2) Explain the procedure of Coding in Malignant Condition?
- 3) Explain design and structure of ICD-10?
- 4) Discuss the Coding Procedure when the patient is Pregnant?

**II. EXPAND THE FOLLOWING ABBRIVATION ANY FIVE 1X5=5**

- |        |        |        |
|--------|--------|--------|
| 1. EEG | 2. TAH | 3. LFT |
| 4. ALD | 5. HIV | 6. NES |

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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) Corruption
- 2) News papers

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

- 3) Write a letter to your friend inviting him to a family function.
- 4) Write a letter to principal asking him for three days leave to visit relative

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

- 5) Goose
- 6) Peacock
- 7) Sales man
- 8) Milk man
- 9) He goat

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

- 10) Black
- 11) Opaque
- 12) Top
- 13) Brave
- 14) Soft

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

- 15) As well as
- 16) Instead of
- 17) Either or
- 18) While
- 19) Even though

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

- 20) Mathematics is \_\_\_\_\_ easy subject.
- 21) I am going to Delhi \_\_\_\_\_ Monday.
- 22) He is fond \_\_\_\_\_ music.
- 23) My friend came \_\_\_\_\_ Delhi yesterday.
- 24) The jockey fell \_\_\_\_\_ the horse.

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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. Mention the different types of microscopes. Write in detail about care and handling of microscopes.
2. Classify Culture media. Write in detail preparation of blood agar
3. Draw a neat labeled diagram of bacterial cell. Explain about bacterial flagella

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

**10 x 5 = 50**

4. Active immunity
5. Robert Koch
6. Fumigation
7. Standard precautions
8. Antigen
9. Urease test
10. Preparation of Gram stain
11. Antibody
12. Anaerobic media
13. Flagella
14. Dark ground microscopy
15. Bacterial spores

**III. Write short answers**

**10 x 2 = 20**

16. Name two gram negative cocci
17. Name two transport media
18. Name two chemical disinfectants
19. Name two uses of hot air oven
20. Name two articles sterilized by red heat
21. Name two non-motile bacteria
22. Give two uses of MacKonkeys agar
23. Name two animals used in microbiology
24. Name two urease positive bacteria
25. Name two gram positive bacilli

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 epidemiology? Write the steps to be followed in Investigation of an epidemic.
- 2) What are arthropods? Discuss the life cycle stages of a mosquito and antilarval measures.
- 3) Write the levels of prevention of a disease. What are the interventional measures.

**II. Short Notes on any TEN.**

**10x5=50.**

- 4) National Immunisation schedule.
- 5) Diseases transmitted by Rodents and their control measures.
- 6) Life style diseases.
- 7) Modes of disease transmission.
- 8) House fly control measures.
- 9) Swimming pool sanitation.
- 10) Ice lined refrigerator.
- 11) Human development index.
- 12) Iceberg phenomenon.
- 13) Germ theory of disease.
- 14) Epidemiological triad in Japanese encephalitis.
- 15) Measures of central tendency.

**III. Write Short Answers.**

**2x10=20.**

- 16) Index case.
- 17) Sanitary well.
- 18) Pie chart.
- 19) Two Helminthic infestations.
- 20) Pulse polio Immunisation.
- 21) Two diseases transmitted by Ticks.
- 22) Paris green.
- 23) Four Mortality indicators.
- 24) Diseases transmitted by faeco oral route.
- 25) Two zoonotic diseases

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**PARAMEDICAL BOARD, BANGALORE**  
**SUPPLEMENTARY EXAMINATION MARCH - 2017**  
**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 inflammation. What are the signs of inflammation? Describe different types of inflammation with examples.
2. Define Fracture with examples. Add a note on fracture healing.

**II. SHORT ESSAY: Answer any Five: (5x5=25)**

3. Define emphysema. Write types of emphysema with example
4. Tuberculosis of lung
5. Write a note on Rheumatoid arthritis.
6. Write a note on carcinoma cervix.
7. Vitamin D deficiency.
8. Fibroadenoma breast
9. Define Necrosis, Mention the types of necrosis with examples.

**III. SHORT NOTES: (5x2=10)**

10. Write 2 types of Renal stones
11. Mention fate of a thrombus
12. Write 2 Ovarian tumors
13. Define neoplasia
14. Write 2 causes of edema.

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