

**DMLT/DMRT EXAMINATION BOARD,
ODISHA
FIRST YEAR D.M.L.T. ANNUAL
EXAMINATION 2025
PAPER-I
(Anatomy, Physiology)**

Time: 3 Hours

Full Marks: 70

Answer all questions

(Use Separate Answer Book For Section-A & Section-B)

SECTION-A (ANATOMY - 35 MARKS)

1. A. Classify Joints. Give example in each category. Describe Ball and Socket Joint. **(2+1+2=5)**
B. Name the four primary tissues present in the human body. Give example in each case. Describe the structure and function of each case. **(2+1+2=5)**
2. Draw a labelled diagram of the respiratory system. Mention the arteries supplying the Lungs. **(3+2=5)**
3. Write briefly on any two. **(2x5=10)**
 - a) Reticuloendothelial system
 - b) Blood supply of heart
 - c) Gastrointestinal system
- 4) Fill in the blanks **(1x 10 = 10)**
 - a) The bone present in the upper arm is known as _____.
 - b) The first cranial nerve is _____.
 - c) The largest and the strongest bone of the human skull is _____.
 - d) The smooth muscles are _____ in nature.

- e) The lining epithelium of the ureter is called _____.
- f) The collar bone is known as _____.
- g) Brain stem consists of Pons, Medulla & _____.
- h) _____ is an example of ball & socket joint.
- i) Spermatogenesis occurs in _____.
- j) In the _____ position the face of the person looks upwards.

SECTION -B (PHYSIOLOGY - 35 MARKS)

1. Write briefly on any (any three) (5 X 3 =15)

- a) Describe the composition of normal urine & function of different parts of the nephrons.
- b) Write down the formation, composition & function of the Cerebrospinal fluid.
- c) Write down the composition & general functions of blood.
- d) Name the endocrine glands. Write in brief about the hormones secreted by the Pancreas.

2. Write true (T) or False (F) (2 X 5 = 10)

- a) The amount of air that moves into the lungs with each inspiration is called the tidal volume.
- b) Estrogen & testosterone are ovarian hormones.
- c) Sweat glands are endocrine glands.
- d) Genetic male is 44XX.
- e) Heparin is a naturally occurring anti coagulant.
- f) _____

3. Fill in the blanks

(2 X 5= 10)

- a) Hydrochloric acid is secreted from _____. (Parietal cells / Chief cells)
- b) _____ is not a salivary gland (Submandibular gland / Lacrymal gland)
- c) Deficiency of _____ causes tetany. (Calcium / Magnesium)
- d) In blood, oxygen is carried by _____. (RBCs / WBCs)
- e) Bradycardia is _____ in heart rate. (Increase / Decrease)



**DMLT/DMRT EXAMINATION BOARD,
ODISHA
FIRST D.M.L.T. ANNUAL EXAMINATION,
2025
PAPER-II
(Community Medicine, Statistics & Computer)**

Time: 3 Hours

Full Marks : 100

Answer All Questions

(Use Separate Answer Book For Section - A, B & C)

SECTION-A (Community Medicine & Statistics - 40 marks)

1. Write short Note on (Any Five) (5 x 5 = 25)

- ☒ a) Transmission of waterborne diseases
- ☒ b) Chlorination of water
- ☒ c) Mosquito control measures
- d) Vitamin A deficiency conditions
- e) BMW colour coding
- f) Prevention of Noise pollution

2. Fill in the blanks (2 x 5 = 10)

- a) _____ & _____ are Non communicable diseases.
- b) _____ & _____ are transmitted by mites.
- c) _____ & _____ are iron rich food.
- d) _____ & _____ are fat soluble vitamins.
- e) _____ & _____ are occupational lung disease.

3. Write Briefly on

(1 + 2 + 2 = 5)

- a) Histogram
- b) Mean & Standard deviation
- c) "t" test

SECTION-B (Computer - 20 marks)

1. Write short notes on (any five)

(5 X 2= 10)

- a) Types of computer
- ~~b) Use of computer in pathology laboratory~~
- ~~c) Computer networking~~
- ~~d) Computer memory~~
- ~~e) External storage devices~~
- f) Outline of Data processing

2. Fill in the blanks

(5 X 2 = 10)

- a) Full form of COBOL is _____ (Common Basic Operating language / Common Business Oriented Language)
- b) _____ Key is used for opening help. (F1 / F2)
- c) The fourth-generation computer used _____ electronic component. (Transistors / Microprocessors)
- d) _____ is not search engine. (Yahoo / Safari).
- e) _____ is the shortcut key to open a new Blank document in MS-Word (CTRL + M / CTRL + N)

SECTION – C (Pharmacology -40 marks)

1. Write short notes: (Any five) (6 X 5 = 30)

- a) Advantages & Disadvantages of various routes of drug administration
- b) Anti Coagulation drugs
- c) Anti-viral drugs
- d) Excretion of drugs
- e) Adverse drug reactions.
- f) Generic medicines

2. Fill in the blanks- (1 X 5 = 5)

- a) Rabeprazole is used to treat _____. (Peptic ulcer / Parkinsonism)
- b) Metoprolol is used to treat _____. (hypertension / Bronchial asthma)
- c) Drug used to treat bronchial asthma is _____. (Salbutamol / Propranolol)
- d) Insulin is usually administered by _____ rout. (Subcutaneous / Intradermal)
- e) HAART is used to treat _____ (AIDS / SARS)

3. Write true (T) or false (F) for the following statements.(1 X 5 = 5)

- a) Metronidazole is used in the treatment of aerobic infection. (True / False)
- b) Action of one drug facilitated or increased by another drug is known as antagonism. (true/ False)

- c) Nitro-glycerine is used in the treatment of hypertension. (True / False)
- d) Chloroquine is used for radical cure of malaria. (True / False)
- e) Rapid onset of action is seen following sublingual route of drug administration. (True / False)



DMLT/DMRT EXAMINATION BOARD,
ODISHA
FIRST D.M.L.T. Annual Examination, 2025
PAPER-III (PATHOLOGY)

**(LABORATORY WARES, INSTRUMENTS, SAFETY, CLINICAL
HAEMATOLOGY)**

Time: 3 Hours

Full Marks: 60

Answer All Questions

1. Answer any three: (15 x 3=45)

- a. Write the safety measures, sites and steps of blood collection measures. What are types of laboratory hazards, the factors contributing to it? Describe the different types of staining blood smears.
- b. What do you mean by (DC/ DLC)? Describe in detail about the procedure to do a DLC. Describe different white cell types with diagram and labelling. (2+7+6=15)
- c. What is ESR? What are the methods of ESR estimation? Describe the two commonly used methods along with its procedure and interpretation. (1+2+6+6=15)
- d. Mention the different chemical tests performed in a urine sample. Write in detail any 3 tests along with their interpretation. (3+4+4+4=15)

2. Write short notes on any FIVE: (2 x 5=10)

- a) Preparation of sickling test and the chemical used for it
- b) Burettes and pipettes

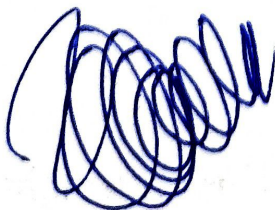
- c) Occult blood test
- d) Safety precautions for avoiding laboratory accidents
- e) Esbauch's albuminometer
- f) Equipment related hazards and how to avoid them

3. Fill in the blanks:

(1x 5=5)

- a) Platelet count is done using _____ (Neubauer chamber/ Capillary tube)
- b) The name of the anticoagulant present in grey top vacutainer tube is _____ (Sodium fluoride / EDTA)
- c) The test used to detect bile salt in urine is _____ (Hay's test / Fouchet's test)
- d) Lee White method is a test used for detection of _____ (bleeding time/ clotting time)
- e) Microalbumin test is done in _____ (serum/ urine).

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DMLT/DMRT EXAMINATION BOARD, ODISHA
FIRST D.M.L.T. ANNUAL EXAMINATION, 2025
PAPER IV
(General & Systemic Bacteriology, Clinical
Microbiology)

Time – 3 hours

Full Marks-60

Answer All Questions

1. Answer any Two

(10 X 2=20)

- a) Enumerate the bacterial causative agents of STIs (Sexually Transmitted infections). Write in details about the laboratory diagnosis of gonococcus infection. (5 + 5=10)
- b) Write in details about structure of bacteria with diagram. Discuss the difference between cell wall of gram positive and gram negative bacteria. (6 + 4=10)
- c) Define sterilization and disinfection. Enumerate different types of physical methods of sterilization. Write in details autoclave. (2+2+3+3=10)

2. Write short note any five

(4 X 5=20)

- a) Streak culture
- b) Catalase test
- c) Enrichment media
- d) Bacterial growth curve
- e) Methods of collection of urine for culture
- f) Hospital acquired infection

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3. Match of the following

(2 X 5=10)

- | | |
|-----------------------|---------------------------------------|
| a) Food poisoning | i) Chemical disinfectant <i>c</i> |
| b) Differential media | ii) ZN stain <i>a</i> |
| c) Halogens | iii) Clostridium perfringens <i>a</i> |
| d) Differential stain | iv) India ink <i>c</i> |
| e) Negative stain | v) CLED agar <i>b</i> |

4. Answer the following.

(2 X 5=10)

- a) Examples of two bacteria causing urinary tract infection
- b) Examples of two Gram positive bacilli
- c) Examples of two selective media
- d) Examples of two culture methods
- e) Examples of two spore forming bacteria.



DMLT/DMRT EXAMINATION BOARD, ODISHA
FIRST D.M.L.T. ANNUAL EXAMINATION, 2025
PAPER-V
(BIO CHEMISTRY)

Time: 3 Hours

Full Marks : 60

Answer All Questions

1. Write short notes (Any ten)

4x10=40

- a) Functions of carbohydrates
- b) Aromatic amino acids
- c) Bicarbonate buffer
- d) Factors affecting enzyme activity
- e) Scurvy
- f) Essential fatty acids
- g) Functions of Vitamin D
- h) Phospholipids
- i) Uses of Radioactive Isotopes
- j) Gout
- k) Benedict's test and its use

2. Fill in the blanks

1X10=10

- a) An example of non-reducing sugar is _____.
(Sucrose/maltose)
- b) The alcohol present in sphingomyelin is _____ (glycerol, sphingosine)
- c) Sulphur containing amino acid is _____. (cysteine, Arginine)

- d) The vitamin which helps in vision is _____. (Vitamin A, Vitamin K)
- e) The end product of protein metabolism is _____ (Urea, uric acid)
- f) An enzyme elevated in Myocardial infarction is _____ (CK-MB, Amylase)
- g) The normal serum protein level is _____. (6-8 gm/dl, 10-14 gm/dl)
- h) Nucleotide is made up of _____. (Base + Sugar + Phosphate, Base + Sugar)
- i) _____ is known as Animal starch. (Glycogen, Glycogenin)

3. Write True (T) or False (F)

2X5=10

- a) Vitamin K helps in clotting. T
- b) Haemoglobin has a tertiary structure. F
- c) Beri-beri is caused due to Thiamine deficiency. T
- d) Dietary fibres are essential in the diet. T
- e) Ferritin is a transport protein. F

