DMLT/DMRT EXAMINATION BOARD, ODISHA
SECOND D.M.L.T. ANNUAL EXAMINATION, 2025
PAPER-I, PATHOLOGY
(Immuno- Hematology, Blood Banking, Histotechnique, Cytology)

TIME : 3 Hours **FULL MARKS : 100**

Answer all questions

1. Answer any two **(20 x 2=40)**

a) What is histotechnique? Describe different steps of tissue processing: (i) dehydration (ii) clearing (iii) paraffin impregnation (iv) blocking. Write the details of Hematoxylin and eosin staining. (3+3+3+3+3+5 = 20)

b) What is " Fixation "? (i) Classify the fixatives. (ii) Describe the features of an ideal fixative & (iii) Write briefly about the different preparations of Formalin fixatives. (2+6+6+6 = 20)

c) What is Cytology? Describe in detail the (i) collection (ii) fixation (iii) staining procedure for Pap smear. Write the advantages of Pap staining. (3+3+3+8+3 = 20)

2. Write Short Notes on (any FIVE) **(8 x 5 = 40)**

(a) Major & Minor Cross Matching of ABO Blood group
(b) Preservation of museum specimens
(c) Blood components
(d) Pigments
(e) Microtome knives
(f) Donor selection

3. Fill in the blanks **(1x10=10)**

a) Hemolytic disease of the new borne occurs when _____ (Rh negative mother has Rh positive fetus / Rh positive mother has Rh negative fetus).

b) The block remaining fixed, knife moves in _____ microtome.

c) The commonest stain used for calcium is _____.

d) Congo red stain is used to demonstrate _____ in tissue.

e) IgG antibodies in recipient serum are detected by _____ (Saline cross match/ Coomb's test).

f) Special stain used for connective tissue is _____.

g) _____ is used as a fixative for electron microscopey. (Zenker's fluid / 2% Glutaraldehyde).

h) Fresh frozen plasma can be stored at minus 2 degrees for a period of _____.

i) The fixative of choice for frozen section _____ (10% formol saline / 40% formol saline).

j) Preservation of museum specimens is done by _____ (absolute alchohol/ Kaiserling solution).

3. Write full forms of the following: **(2 x 5 = 10)**

a) MGG

b) PAS

c) EDTA

d) HPLC

e) CPD

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DMLT/DMRT EXAMINATION BOARD, ODISHA
SECOND D.M.L.T. ANNUAL EXAMINATION, 2025
Paper-II (Microbiology)
(Immunology & Serology, Parasitology, Virology, Mycology, Animal care)

Time – 3hours **(Full Marks =100)**

ANSWER ALL QUESTIONS

1. Answer any Two **(20 x 2=40)**

a) What are the different species of Plasmodium that cause malaria in humans? Write down the life cycle & different laboratory tests done to detect the malarial infection. (4+8+8=20)

b) Name the different viruses causing Viral hepatitis, describe about their route of infections, laboratory diagnosis and prophylaxis (6+4+7+3=20)

c) Write about the Morphological classification of fungus. Write in details about laboratory diagnosis of fungus under the heading of Microscopy, Culture, Serology and Molecular diagnosis. (4+4+4+4+4=20)

2. Write short note any five **(8 X 5=40)**

a) Microfilaria
b) Diagnosis of Japanese encephalitis
c) Immunoglobulins
d) Type I Hypersensitivity reaction
e) Methods of collection and transport of virological specimens for PCR test
f) Subcutaneous Mycoses

3. **Answer the following** **(2 X 5=10)**

a) Examples of two virus cussing respiratory tract infection.

b) Examples of two dimorphic fungus.

c) Examples of two viruses transmitted by sexual route.

d) Examples of two intestinal Nematodes.

e) Examples of two tests of antigen- antibody reactions.

4. **Write True(T) or False (F):** **(2 X 5=10)**

a) COVID-19 virus in an un enveloped virus.

b) Sabouraud's Dextrose Agar is the media used for bacteria.

c) Plasmodium falciparium is a type of fungus.

d) The IgM antibody can not cross the placenta.

e) Poliovirus is a DNA virus.

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

Time: 3 Hours **Full Marks : 100**

Answer All Questions

1. Answer any Two **(10x2=20)**

a) A patient comes with yellowish discolouration of conjunctiva and pain in the abdomen. Mention the different tests to diagnose this condition along with their importance. Differentiate between Haemolytic, Hepatocellular and Obstructive Jaundice. (5+5)

b) What is the normal fasting and post prandial blood sugar level. Mention the causes of raised blood sugar level. Briefly describe the regulation of the blood sugar in fasting state. (2+2+6)

c) Enumerate the different renal function tests. What are the indications to assess renal function. Describe briefly (5+5)

2. Write short notes on the following. **(5 x2=10)**

a) Glomerular function tests

b) Tubular function tests

3. Write short notes on any five **(6x5=30)**

a) Albumin-Globulin Ratio

b) Diagnostic value of TSH

c) Dehydration

d) HbA_1c

e) HDL and its importance

f) Principle of colorimetry

4. Enumerate the following **(6x5=30)**

a) Two tests to diagnose Hypothyroidisnm .

b) Two tests to diagnose Diabetes Mellitus.

c) Two tests to diagnose Pancreatitis.

d) Two preservatives used in 24 hour urine collection.

e) Two tests to detect the synthetic function of liver.

5. Fill in the blanks **(2x5=10)**

a) _____ is known as good cholesterol (HDL, LDL)

b) Prothrombin time is _____ in Liver disease (Increased, Decreased)

c) Test done to quantitate blood glucose is _____ (Hexoklnase, Urease)

d) The normal serum creatinine is (0.7-1 mg/dl, 1-4 mg/dl)

e) Clearance test is _____test. (Glomerular function,Tubular function)

f) M band is seen in _____ (multiple myeloma ,Hepatitis)

g) Friedwald's formula is used to calculate the _____ value (LDL, Cholesterol)

h) The enzyme raised in Alcoholic liver diseases is————. (GGT, Amylase)

i) Glucose oxidase test is specific for ———— (Glucose, Protein)

j) Hays test is done to detect _____ (Bile salts, Ketose bodies)

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