

Section-D

Note: Long answer questions. Attempt any Two questions out of Three Questions. (2x8=16)

- Q.23 Write the principle, procedure & normal value of Uric Acid.
- Q.24 Write the principle, procedure & normal value of serum Creatinine.
- Q.25 Explain Quality Assurance in biochemistry laboratory as per National standards in detail.

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Roll No.....

181917

1st Year Annual Pattern (Re-app)

Branch : DMLT

Sub.: Biochemistry-1st

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 Urea formation takes place mainly in _____?
- a) Kidney b) Liver
- c) Lungs d) None of these
- Q.2 Elevated levels of urea and other nitrogen compounds in blood is known as _____?
- a) Azotemia b) Anaemia
- c) Myeloma d) None of these
- Q.3 Creatine phosphate is also known as _____?
- a) Creatinine b) Carbohydrates
- c) Phosphocreatine d) None of these

Q.4 What is the normal value of blood urea?

- a) 7-21 mg/dl b) 0-14 mg/dl
- c) 6-40 mg/dl d) 6-18 mg/dl

Q.5 Normal range of uric acid is

- a) 6.5 -9.2 mg/dl. b) 1.2-2.4 mg/dl.
- c) 3.5-7.2 Mg/dl. d) None of these

Q.6 Which method is used for estimation of urea?

- a) Schals method
- b) Biuret method
- c) Falmephotometry method
- d) DAM method

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define Blood urea.

Q.8 Write the name of any two electrolytes.

Q.9 Increase concentration of uric acid in blood to above normal value is known as _____?

Q.10 _____ fluid is accumulated outside the body cells.

Q.11 Serum creatinine is increased in _____ failure (Heart/Kidney).

Q.12 _____ method is used for estimation of Serum Protein.

Section-C

Note: Short answer type Questions. Attempt any Eight questions out of Ten Questions. (8x4=32)

Q.13 Write the clinical importance of blood urea.

Q.14 Write the principle of DAM Method.

Q.15 Write the clinical significance of serum creatinine.

Q.16 Write the functions of Serum proteins.

Q.17 Explain the urea cycle in brief.

Q.18 Explain Pre-Analytical Quality Control.

Q.19 Write the principle of serum protein estimation.

Q.20 Write the importance of some trace elements.

Q.21 Write the procedure of serum calcium estimation.

Q.22 Write the clinical significance of serum Sodium.

Section-D

Note: Long answer questions. Attempt any Two question out of Three Question. (2x8=16)

Q.23 Explain cyanmethaemoglobin method for Haemoglobin estimation.

Q.24 Explain WBC count with Principle procedure and clinical significance.

Q.25 Explain Principle, procedure of Automated cell counter with Diagram.

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Roll No.....

181915

1st Year Annual Pattern (Re-app)

Branch : DMLT

Sub.: Clinical Haematology 1st

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Decrease number of WBCs is known as _____.

- a) Leukocytopenia b) Leukocytosis
- c) Erythrocytopenia d) None of these

Q.2 Haemocytometer is used for _____?

- a) Cell count b) Hb. Estimation
- c) Pulse count d) None of these

Q.3 Which cell helps to fight against infection/Disease.

- a) RBCs b) Platelets
- c) WBCs d) None of these

Q.4 In Haemoglobin, Globin is _____ part.

- a) Iron b) Protein
- c) Calcium d) All of these

Q.5 Normal range of RBCs in Female.

- a) 4.5 to 5.5 million cells/ Cumm.
- b) 8.5 to 9.5 million cells/Cumm.
- c) 2.5 to 4.5 million cells/cumm
- d) None of These

Q.6 Increases No. of RBC's is also known as _____.

- a) Leukocytosis b) Thrombocytopenia
- c) Erythrocytosis d) Thrombocytosis

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define Hemoglobinometry.

Q.8 Normal life span of RBCs (20 Days or 120 Days)

Q.9 Name any one condition in which WBC's count increases.

Q.10 Write the formula of standard deviation.

Q.11 Define Lymphocytes.

Q.12 Define Accuracy.

Section-C

Note: Short answer type Question. Attempt any Eight questions out of Ten Questions. (8x4=32)

Q.13 Explain types of Haemoglobin.

Q.14 Write any four functions of Blood.

Q.15 Write the area and uses of Neubauer counting chamber.

Q.16 Write the difference between RBC and WBC Pipette.

Q.17 Explain Accuracy and Precision in Quality assurance.

Q.18 Write any four benefits of Automation.

Q.19 Describe External Quality Assurance in Brief.

Q.20 Write the composition of Leishman stain.

Q.21 Write the clinical significance of DLC.

Q.22 Write the procedure of RBC count.

Q.29 Give the reference values and principle of creatinine estimation.

Q.30 Give the principle of OCPC method.

Q.31 Write a short note on formation of bilirubin.

Q.32 What is urine relative mass density? How is it measured.

Q.33 What is serum amylase? Give the reference values and principle of amylase estimation.

Q.34 Give the clinical importance of SGOT and SGPT estimation.

Q.35 Explain the difference between conjugated and unconjugated bilirubin.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What are renal function tests? Name and explain few important RFT's.

Q.37 Name the different methods for uric acid estimation. Explain principle and procedure for it's estimation.

Q.38 Explain the principle and procedure for serum cholesterol estimation.

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Roll No.

181933/121933/031933

DMLT

Subject:- Clinical Biochemistry - III

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 OCPC method is used for estimation of

- a) Phosphorus b) Calcium
- c) Bilirubin d) None of these

Q.2 ALP and ACP belong to the category of

- a) Hydrolases b) Phosphatases
- c) Lipases d) None of these

Q.3 The normal values of phosphorus in adults are

- a) 1.5-3.5 mg/dl b) 2.5-5.0 mg/dl
- c) 3.00-6.00 mg/dl d) None of these

Q.4 SGOT and SGPT tests belong to the category of

- a) Lipid Profile tests b) Liver Function tests
- c) Renal Function tests d) All of these

Q.5 LDL, HDL and VLDL belong to

- a) Lipid Profile b) LFT
- c) RFT d) None of these

Q.6 The method used for estimation of serum amylase is
a) Street-close method b) Malloy & Evelyn
c) 2,4, DNPH d) None of these

Q.7 Pre-hepatic jaundice is also known as
a) Haemolytic b) Obstructive
c) Both of these d) None of these

Q.8 Creatinine clearance test is also known as
a) VLDL b) GFR
c) UCR d) None of these

Q.9 The indicator used in serum calcium estimation is
a) EDTA b) Dye calcon
c) Oxalate d) None of these

Q.10 The estimation of urea, creatinine and uric acid belong to
a) LFT b) Lipid Profile
c) RFT d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 pH for ALP estimation is _____.

Q.12 The method used for serum creatinine estimation is _____.

Q.13 _____ jaundice is called obstructive jaundice.

Q.14 Increased values of uric acid are seen in _____.

Q.15 Normal values of serum calcium are _____.

Q.16 Increased value of ACP are seen in _____.

Q.17 VLDL stands for _____.

Q.18 _____ is used to measure the urine relative mass density of urine.

Q.19 The method for cholesterol estimation is _____.

Q.20 _____ bilirubin is called direct bilirubin.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Give the clinical importance of cholesterol estimation. Name of the important lipid profile tests.

Q.22 Name the different forms of bilirubin, reference values and principle of bilirubin estimation.

Q.23 Write a note on creatinine clearance test.

Q.24 What is ACP? Give the normal values and principle of ACP estimation.

Q.25 Explain the procedure of ALP estimation.

Q.26 Give the reference value and clinical importance of 24 hour urinary protein estimation.

Q.27 Give the clinical significance of uric acid estimation.

Q.28 What is HDL? Give the principle of HDL estimation.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Write down the principle, procedure & observation of Gram Stain.

Q.24 Explain Autoclave with its principle, construction & working procedure.

Q.25 Draw a Compound Microscope & Explain its principle & working.

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221914

NEP / 1st Sem. / DMLT

Subject : Basic Micro-Biology

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which enzyme convert milk in to curd?

- a) Bacillus b) Lactovibrio
- c) Lactococcus d) Lactobacillus

Q.2 Study of fungi is _____

- a) Parasitology b) Mycology
- c) Microbiology d) Virology

Q.3 Which microorganism have complex cellular structure?

- a) Eukaryotic group b) Prokaryotic group
- c) Both A and B d) None of these

Q.4 Which technique is used to destroy the microorganisms?

- a) Sterilization b) Filtration
- c) Both I & II d) None of these

Q.5 Full form of AFB is

- a) Acid fast Bacilli b) Acid free bacteria
- c) Alkali fast Bacilli d) None of these

Q.6 Which one is used as a solidifying agent

- a) Peptone b) Agar
- c) Dextrose d) None of these

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define Bio-safety cabinets.

Q.8 Which one is used for moist heat sterilization. (Autoclave/Hot air oven)

Q.9 What is resolving power in microscope?

Q.10 Define Broth.

Q.11 _____originate from cytoplasm and helps in movement. (Pilli/ Flagella)

Q.12 Which one is a basic dye. (Methylene/Eosin)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Write any four safety precautions used in microbiology.

Q.14 Write down the Importance of Microbiology.

Q.15 Describe classification of Microorganism in brief.

Q.16 What are nutritional requirement of bacteria.

Q.17 Write a short note on dry heat sterilization.

Q.18 What is Antiseptic. Explain its type.

Q.19 Write down the care & maintenance of Microscope.

Q.20 How to prepare thick smear?

Q.21 Write a short note on Culture Media.

Q.22 Explain Enriched & Selective culture media.

- Q.30 Explain the clinical significance of Hb estimation.
- Q.31 Give the normal value and clinical significance of PCV.
- Q.32 Explain Red cell Indices.
- Q.33 Give the clinical significance of Hb estimation.
- Q.34 Give the difference between microhematocrit and macrohematocrit method.
- Q.35 What is the procedure of osmotic fragility test?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain the procedure of ESR by Westergren method.
- Q.37 Explain the types of hemolytic anemia with its causes and lab diagnosis.
- Q.38 Explain the principle and procedure of reticulocyte count.

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Roll No.

181932/121932/031932

DMLT

Subject:- Hematology III/ Clinical Hematology III

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Wintrobe tube is used for:
- a) ESR b) PCV
- c) Both a and b d) None
- Q.2 Packed cell volume is also known as:
- a) Haemoglobin b) Haematocrit
- c) Hemolysis d) All
- Q.3 In hemolytic anemia breakdown of _____ is increased:
- a) WBC b) PLT
- c) RBC d) None
- Q.4 Reticulocyte are immature _____
- a) RBC b) WBC
- c) PLT d) HB
- Q.5 Which of the following is a supravital stain?

- a) BCB b) Leishman's stain
- c) Giemsa's stain d) All

Q.6 Westergren tube is _____ cm long:

- a) 12 cm b) 30 cm
- c) 20 cm d) 10 cm

Q.7 Normal range of MCH is

- a) 27-31 pg b) 80-100 fl
- c) 32-36 gm/dl d) None

Q.8 Red cell fragility test is also known as

- a) HB fragility b) Osmotic fragility
- c) PLT fragility d) All

Q.9 Tri-sodium citrate is used in _____ method:

- a) Wintrobe method b) Westergren method
- c) Capillary tube method d) None

Q.10 Microhematocrit method is used in _____ method:

- a) ESR b) RBC count
- c) Retic count d) PCV

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 NMB stands for _____

Q.12 MCHC stands for _____

Q.13 ESR stands for _____

Q.14 The length of wintrobe tube is _____ mm.

Q.15 _____ tube is used for macrohematocrit method.

Q.16 Megaloblastic anemia is caused by _____.

Q.17 Iron is caused by deficiency of _____.

Q.18 _____ is the normal range of MCV.

Q.19 _____ is the normal range of Reticulocyte count.

Q.20 PCV is increased in _____ condition.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Give the requirements and clinical significance of osmotic fragility test.

Q.22 Give the difference between wintrobe tube and westergren tube.

Q.23 Name any two supravital stains with their composition.

Q.24 Describe MCH with its formula and normal range.

Q.25 Name the methods of ESR with their requirements.

Q.26 What are the causes of anemia?

Q.27 Explain the procedure of Foetal Hb.

Q.28 Give the classification of anemia.

Q.29 What are the various factors that affect ESR?

- Q.31 Write the safety guidelines to be taken in MLT lab.
- Q.32 Give the procedure of CSF and urine collection.
- Q.33 Give the properties of good fixatives.
- Q.34 What are mordents? Give two names.
- Q.35 Write a note on automatic knife sharpener or histokinete.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Write down the complete procedure of H & E staining method?
- Q.37 Explain Honing and Stropping technique with its diagram?
- Q.38 Explain the different types of knives with diagrams?

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MLT

Subject:- Histopathology & Cytology I

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Heat will accelerate the process of?
a) Mounting b) Dehydration
c) Demineralization d) Clearing
- Q.2 Which is used for embedding in histology?
a) Waxed paper cups b) Plastic Trays
c) Ice Trays d) Glass Tubes
- Q.3 Which is commonly used mounting media?
a) Canada Balsam b) Permount
c) DPX d) Clarite
- Q.4 Eosin stains which part of the cell
a) Nuclear Part b) Cytoplasmic part
c) Both A & B d) Mitochondria
- Q.5 Most popular mounting media is?
a) Cellodin b) LVN
c) Carbowax d) Paraffin Wax

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- Q.6 The tissue taken for diagnosis from the living body is?
- a) Biopsy b) Autopsy
c) Tissue d) All above
- Q.7 Honing is done on
- a) Leather b) Belgian Black Stone
c) Paper d) None
- Q.8 In which microtome the temp is maintained at about -15°C to 30°C.
- a) Rotary b) Cryostat
c) Both A and B d) Sledge
- Q.9 Which is used as a mordant in hematoxyline stain
- a) Hematoxyline b) Eosin
c) Alum d) None
- Q.10 The melting point of Paraffin wax is
- a) 40-45°C b) 45-50°C
c) 25-40°C d) 54-60°C

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What are solvents?
- Q.12 What is Section cutting?
- Q.13 Name any two mountants?

- Q.14 What is the SI unit of pressure?
- Q.15 What is tissue flotation bath?
- Q.16 What is the normal pH of blood?
- Q.17 What are lubricants?
- Q.18 Name two purification method of hard water.
- Q.19 Due to _____ the taste of water is salty. (Calcium / Sodium)
- Q.20 _____ are the chemical compounds that can dissolve in water & form Ions. (electrolytes/non-electrolytes)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Draw a well labeled diagram of microtome.
- Q.22 Write the procedure of Paraffin embedding.
- Q.23 Give the role of Laboratory Technician in Histology?
- Q.24 Write a short note on Laminar Air Flow chamber.
- Q.25 What is the difference between Autopsy and Biopsy.
- Q.26 Write down the principle of May Grunwald & Giemsa staining method.
- Q.27 What are Accelerators?
- Q.28 Give the classification of Fixatives?
- Q.29 Write down the application of Microtome.
- Q.30 What are the functions of mitochondria?

Q.24 Explain about the following

- a) Surface Tension
- b) Viscosity

Q.25 Write a brief note on the different types of Hazards in laboratory?

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Roll No.

221912

NEP / 1st Sem. / MLT

Subject : Basic Chemistry

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 pH value of pure water is

- a) 5
- b) 7
- c) 6
- d) 8

Q.2 When gas is ionized _____ is formed

- a) ozone
- b) molecules
- c) plasma
- d) current

Q.3 pH means

- a) potential of hydrogen
- b) presence of hydrogen
- c) presence of hemoglobin
- d) power of hemoglobin

Q.4 The most abundant element in the universe is

- a) hydrogen b) oxygen
- c) carbon dioxide d) silicon

Q.5 Substance which increase the reaction rate is

- a) metal b) catalyst
- c) enzymes d) alloy

Q.6 _____ does not form lather with soap.

- a) Hard water b) Soft water
- c) Acidic Water d) Distilled water

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What is meant by organic compounds?

Q.8 What is evaporation.

Q.9 Define solution.

Q.10 What is photometry?

Q.11 What are the sources of water.

Q.12 Give two examples of underground water

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Write a short note on Osmosis.

Q.14 Write a short note on Equilibrium state.

Q.15 Write a short note on Electrolytes.

Q.16 Write down the principle of Reduction reaction.

Q.17 What is covalent bond & its theory.

Q.18 Write down the difference between hard water and soft water.

Q.19 Explain Acid-base titration.

Q.20 What are the good qualities of water.

Q.21 Write a note on any one law of photometry.

Q.22 What are the characteristics of solutions.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Give the classification of carbohydrates and their nutrition effect on human body?

- Q.31 Define Antigen & explain any one type of antigen.
 Q.32 Write the important Historical date & Scientific Name in blood banking.
 Q.33 Write down the principle of Direct Coombs Test.
 Q.34 Explain Immune Mediated reactions
 Q.35 Give the Composition of CPD Anticoagulants.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Write a short note on following:
 a) Non immunological blood transfusion Reaction
 b) Febrile Non Haemolytic transfusion Reaction
 Q.37 What is rejected Donor? Write ten points of rejection for donor.
 Q.38 Write down the principle & procedure of RH blood grouping?

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 Roll No.

181935/121935/31945

MLT

Subject:- Transfusion Medicine

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Who discovered rh blood group?
 a) James b) Karl Landsteiner
 c) Hektoen d) Richard
 Q.2 What are haptens?
 a) Antigen b) hormones
 c) acids d) all
 Q.3 How many type of comb test is ?
 a) 01 b) 2
 c) 3 d) 4
 Q.4 Small site present on antigen surface is _____
 a) Atom b) Compound
 c) Epitope d) none
 Q.5 Expand HCV
 a) High carrier virus b) Hepatitis
 c) virus d) None

- Q.6 Name of a natural anticoagulant
 a) Heparin b) antiserum
 c) both d) none
- Q.7 Antigen that procedure antibody is called _____
 a) Bone marrow b) goblet
 c) B cells d) all
- Q.8 Which test is performed to check the compatibility of recipient and donor blood
 a) Vidal b) HCV
 c) HIV d) Cross matching
- Q.9 Expand CPD
 a) citrate phosphate dextrose
 b) counting process desk
 c) both
 d) none
- Q.10 Which parasite causes the malaria
 a) Roundworm b) Plasmodium
 c) both d) none

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Expand ACD
 Q.12 Give the name of antibody which occurs naturally
 Q.13 Define haemolytic transfusion reaction

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- Q.14 Transfer of blood from one person to another is called _____
 Q.15 Expand ELISA
 Q.16 What are anticoagulants
 Q.17 Any substance that interacts with antibodies is called _____
 Q.18 Mention the range of Hb required for a blood donor.
 Q.19 Define clot retraction
 Q.20 What is post transfusion purpura

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Define EDTA & explain its Merits & Demerits
 Q.22 Enlist the Criteria for Rejection of a Donor.
 Q.23 Explain AHG Cross Matching Test.
 Q.24 What are antibody classify them.
 Q.25 Outline the procedure for collection of the blood.
 Q.26 Write the principle & importance of Indirect Coombs Test.
 Q.27 Write the Importance of blood grouping.
 Q.28 Explain Albumin Test method.
 Q.29 Screening of blood Donor for MP.
 Q.30 Explain Blood Compatibility Test.

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Section-D

Note: Long answer questions. Attempt any Two questions out of Three Questions. (2x8=16)

- Q.23 Enumerate about principle and procedure of antimicrobial sensitivity test.
- Q.24 Explain the lab diagnosis of UTI (Urinary tract infection)
- Q.25 Write down the biochemical test and cultural characteristics of staphylococcus.

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Roll No.....

181914

1st Year Annual Pattern (Re-app)

Branch : DMLT

Sub.: Clinical Microbiology

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 Microbiology is study of
- a) Viruses b) Bacteria
- c) Fungai d) Micro-Organisms
- Q.2 MR stands for
- a) Mycobacterium tuberculosis
- b) Mycobacterium Laprae
- c) Methyl Red
- d) None of above
- Q.3 Typhoid Fever is Caused by_____.
- a) Salmonella b) E. Coli
- c) T. Pallidium d) Vibrio Cholera

Q.4 AFB stand for_____.

- a) Acid fast bacilli b) Acid fat bacilli
- c) All of above d) None of above

Q.5 _____ is the purpose of bacterial examination.

- a) To detect bacteria b) To detect blood cells
- c) To detect pus cells d) All of above

Q.6 Which is an Acid fast bacteria.

- a) E.Coli
- b) Streptococcus
- c) Mycobacterium Tuberculosis
- d) Proteus

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define Bacteriology.

Q.8 Name two samples for intestinal infection.

Q.9 Write the names of two common bacteria.

Q.10 Expand VP and MR.

Q.11 Write two preventions that stop the infection.

Q.12 Define Nosocomial infection.

Section-C

Note: Short answer type Questions. Attempt any Eight questions out of Ten Questions. (8x4=32)

Q.13 Write a short note on UTI.

Q.14 Write a short note on pneumococci.

Q.15 Write down the morphology and cultural characteristics of vibrio cholera.

Q.16 Discuss the different types of infection.

Q.17 How to collect the urine sample.

Q.18 Discuss the disc diffusion method.

Q.19 Write a short note on catalase test.

Q.20 Discuss the processing of sputum sample.

Q.21 Write a short note on pathogen and its pathogenicity.

Q.22 What are the various mode of spread of infection.

Section-D

Note: Long answer questions. Attempt any Two question out of Three Question. (2x8=16)

Q.23 What is protein and also discusses clinical importance of it.

Q.24 Write down the clinical importance of lipids.

Q.25 Define carbohydrate and also write their classification in detail.

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Roll No.....

181913

1st Year Annual Pattern (Re-app)

Branch : DMLT

Sub.: Basic Chemistry

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Expand RNA.

a) Ribonucleic Acid

B) Riboxynucleic Acid

c) Reverse Nucleic Acid

d) None of above

Q.2 Which sugar is present in Milk?

a) Glucose b) Maltose

c) Lactose d) None of these

Q.3 Enzymes are _____ in nature.

a) Acidic b) Basic

c) Neutral d) Amphoteric

- Q.4 Protein acts as an ____.
- a) Enzyme b) Amino Acids
c) Lipids d) None of above

Q.5 Table sugar is known as ____.

- a) Lactose b) Sucrose
c) Fructose d) Glucose

Q.6 Hydrates of carbon and hydrogen is called

- a) Protein b) Lipids
c) Carbohydrates d) None of above

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Write two sources of carbohydrates.
- Q.8 Write down the chemical formula of Glucose.
- Q.9 How many carbon atoms in fructose.
- Q.10 Define alcohol.
- Q.11 What is the basic unit of protein.
- Q.12 Write an example of lipase enzyme.

Section-C

Note: Short answer type Question. Attempt any Eight questions out of Ten Questions. (8x4=32)

- Q.13 Discuss the uses of ethanol.
- Q.14 What are the various names of amino acids and discuss one of them.
- Q.15 Write down the various source of carbohydrates.
- Q.16 Write a short note on cholesterol.
- Q.17 discuss the uses of methanol.
- Q.18 Write a short note on enzymes.
- Q.19 Write a short note on monosaccharide and disaccharides.
- Q.20 Discuss the primary amine structure with diagram.
- Q.21 Write the clinical importance of proteins.
- Q.22 What are the composition, molecular weight and hydrolysis of protein.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

- Q.23 Describe various calcium chelators anticoagulants with mode of action, merits and demerits.
- Q.24 Explain Romanowsky Stain in Detail.
- Q.25 Explain Requirement Principle and procedure for venous blood.

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Roll No.....

221916

Sem. 1 DMLT

Sub : Introduction to Haematology-1st

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 The study of Blood and its components is called.....?
- a) Haematology b) Microbiology
c) Histology d) None of these
- Q.2 What is the normal life span of RBC?
- a) 180 days b) 120 days
c) 45 days d) None of these
- Q.3 Which one is a natural anticoagulant and found inside human body?
- a) EDTA b) Sodium citrate
c) Heparin d) None of these

Q.4 the Incision of the vein for blood collection is called _____?

- a) Phlebotomy b) Anatomy
- c) Mierotomy d) None of these

Q.5 which one is used to puncture the skin o to collect capillary Blood?

- a) Needles b) Lancet
- c) Both A & B d) None of thee

Q.6 which one is act as a Fixative in staining solution?

- a) Azure b) Methanol
- c) Eosion d) None of these

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Formation of Leukoeytes inside human body is known as _____.

Q.8 Expland EDTA & CPT.

Q.9 Which vein in most suitable for venipuncture?

Q.10 Which anticoagulant is mostly used for CBC?

Q.11 Define Thrombopoiesis.

Q.12 What is the appropriate pH to produce the Romanowsky effect?

Section-C

Note: Short answer type Question. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 Define blood and write their composition.

Q.14 Draw and explain any four glassware used in Haematology Laboratory.

Q.15 Write the difference between Serum & Plasma.

Q.16 Draw RBC and WBC Pipette and write their uses.

Q.17 Explain eDTA & Sodium Citrate with mode of action and merits and Demerits.

Q.18 Write the materials & Equipments required for venipuncture.

Q.19 Describe Vacutainer system for blood collections.

Q.20 Write the procedure of preparation of Thin blood film.

Q.21 Describe safety precautions during capillary puncture.

Q.22 Deseribe Granulocyte series of Leuckopoiesis.

- Q.27 Give the pathogenicity and features of egg of *A. duodenale*.
- Q.28 Explain the procedure of formal ether concentration technique.
- Q.29 Give the general characteristics of protozoa.
- Q.30 Draw a labelled diagram & features of cysts of *Entamoeba* & *Giardia*.
- Q.31 Explain diagrammatically, the life cycle of *T. Solium*.
- Q.32 Give the transmission of HIV.
- Q.33 Define definitive host and intermediate host with example.
- Q.34 Write in brief about the life cycle of *E. histolytica*.
- Q.35 How is Iodine solution for Wet mount in iodine prepared.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Describe the transmission, pathogenicity and lifecycle of *A. lumbricoides*.
- Q.37 Describe the transmission, pathogenicity, lab diagnosis and prevention of Rabies or HBV.
- Q.38 Explain the lifecycle and lab-diagnosis of malaria.

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181931/121931/031931

3rd Sem / MLT Subject:- Clinical Microbiology III

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 How many pairs of flagella are present in the trophozoites of *Giardia lamblia*.
a) One b) Two
c) Three d) Four
- Q.2 Number of blastomeres in the Egg of *A. Deuodenale* are
a) Two b) Four
c) Eight d) Sixteen
- Q.3 Malarial Infection can be transmitted by the bite of Infected
a) Male mosquito b) Female fly
c) Female mosquito d) Female mouse
- Q.4 Definitive host of *E. histolytica* is:
a) Man b) Pig
c) Dog d) Cow
- Q.5 Which is the intermediate host for *T. saginata*

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- a) Man b) Cattle
c) Pig d) Sheep
- Q.6 All viruses lack
a) tRNA b) mRNA
c) rRNA d) DNA
- Q.7 Portal of entry of *A. lumbricoides* is
a) Brain b) Alimentary Canal
c) Intestine d) Gall bladder
- Q.8 Mature cyst of *E. histolytica* is
a) Uninucleate b) Binucleate
c) Quadinucleate d) Octanucleate
- Q.9 Common name of *T. solium* is
a) Pork tapeworm b) Beef tapeworm
c) Dwarf tapeworm d) Dog tapeworm
- Q.10 Creeping eruptions occur by
a) *A. lumbricoides* b) *A. duodenale*
c) *E. dispar* d) *G. lamblia*

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 _____ is the definitive host in the life cycle of malarial parasite.
- Q.12 Parasites which live inside the body of host is called _____.

- Q.13 _____ microorganism passes through membrane filters.
- Q.14 The symmetry of influenza virus is _____.
- Q.15 _____ disinfectant is effective against viruses.

B) Match the following:

- | | |
|---------------------|-----------------------|
| Q.16 Viral symmetry | i) Flotation |
| Q.17 Zinc sulphate. | ii) Rabies |
| Q.18 Ascariasis | iii) Round worm |
| Q.19 Beef tapeworm | iv) Icosahedral |
| Q.20 Negri bodies | v) <i>T. saginata</i> |

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain any 2 concentration techniques which are used for the demonstration of Ova.
- Q.22 Give the mode of transmission and lab-diagnosis of HIV.
- Q.23 Give the lifecycle and features of egg of *T. saginata*.
- Q.24 Give the general characteristics and symmetry of viruses.
- Q.25 Give the general character of Menathelminthes
- Q.26 Write in brief about the features of trophozoite and cysts of *G. lamblia*.

Section-D

Note: Long answer questions. Attempt any Two questions out of Three Questions. (2x8=16)

- Q.23 Enumerate about the menstrual cycle in females.
- Q.24 Explain the cardiac cycle in detail with diagram?
- Q.25 Write a detailed note on CNS.

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181912

1st Year Annual Pattern (Re-app)

Branch : DMLT

Sub.: Anatomy & Physiology

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 Connection between axon and dendrite is called ____.
- a) Synapsis b) Synapse
- c) Desmosome d) Tigh Junction
- Q.2 How many types of muscles are there is human body.
- a) 1 b) 2
- c) 3 d) 4
- Q.3 What is the normal heart rate
- a) 62/min b) 68/min
- c) 72/min d) 76/min

Q.4 _____ is not a salivary gland.

- a) Submandibular gland
- b) Sublingual Gland
- c) Parotid Gland
- d) Thyroid Gland

Q.5 _____ is the longest and largest bone of skeleton.

- a) Femur b) Tibia
- c) Fibula d) None of above

Q.6 Oestrogen & Progesterone hormone are secreted by

- a) Pancreas b) Ovaries
- c) Testis d) Fallopian tubes

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What is the normal BP of human body?

Q.8 Nerve cells with all its branches are known as _____.

Q.9 Write the names of four sense organs.

Q.10 Expand ECG.

Q.11 Why meninges are important?

Q.12 Expand TSH & FSH.

Section-C

Note: Short answer type Questions. Attempt any Eight questions out of Ten Questions. (8x4=32)

Q.13 Write a short note on Muscle fatigue.

Q.14 Difference between Smooth & Striated muscle.

Q.15 Differentiate between arteries and veins.

Q.16 What are the functions of pituitary glands?

Q.17 Why thyroid gland is important for us?

Q.18 Draw a well labeled diagram of neurones.

Q.19 Write a short note on composition and function of blood.

Q.20 Give the functions of ovaries.

Q.21 Write a note on TSH.

Q.22 What is the function of Insulin hormone?

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

Q.23 Draw a well labeled diagram of microscope and explain its part?

Q.24 Write about principle of biochemistry analyzer with its applications.

Q.25 Explain about physical and chemical balances.

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221915

Sem. 1 NEP MLT

Sub : Fundamentals of MLT

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 For blood collection _____ is used.

- a) Flask b) Beaker
- c) Bucket d) Syringe

Q.2 Hematology analyzer is used for

- a) Histology tests
- b) Routine Blood tests
- c) Blood biochemistry tests
- d) Culture tests

Q.3 Common anticoagulant used in blood banks is

- a) CPDA b) Heparin
- c) Double oxalate d) EDTA

Q.4 Normal pH of Urine is

- a) 7.5-8.2 b) 09 - 9.5
- c) 6 - 7.5 d) 5 - 6.5

Q.5 HEPA filters are present in

- a) Autoclave b) Laminar Air Flow
- c) Microscope d) None of above

Q.6 Microscope is used to see

- a) Stars b) Micro organisms
- c) Animals d) None of above

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What is First Aid?

Q.8 What is a Tourniquet?

Q.9 Why lab coat is important in lab?

Q.10 Name any two common lab instruments.

Q.11 Slides are made up of _____.

Q.12 _____ are the chemical that stops blood clotting.

Section-C

Note: Short answer type Question. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 Discuss about laboratory safety precautions in detail.

Q.14 Give the uses of Distillation plant.

Q.15 What do you mean by biomedical waste? Why its management is so important?

Q.16 Write the procedure of the blood collection with its requirements.

Q.17 Differentiate between simple and compound microscope.

Q.18 Write about the care the maintenance of microtome.

Q.19 Give the types of syringes used for blood collection.

Q.20 Write a note on centrifuge machine and its applications.

Q.21 Write the applications of BOD incubator.

Q.22 How will you operate a membrane filter for the microbiological examination of water?

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

Q.23 What are epithelial tissues? Given the classification of Epithelial tissues?

Q.24 Explain about the following.

a) Internal Respiration

b) Cardiac Cycle

Q.25 Write a detailed note on Gas exchanges in lungs?

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221913

**Sem. 1 NEP
MLT**

Sub : Anatomy & Physiology-1

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Which is a connective tissue

a) Cardiac muscle b) Liver cells

c) Nervous tissue d) Blood

Q.2 the hip joint is

a) None movable b) Unknown joint

c) Ball & socket joint d) None of above

Q.3 Neck muscles are _____ type of muscles

a) Voluntary b) Skeletal

c) Contractile d) Involuntary

(1)

221913

Q.4 Full form of ECG is

- a) Electro pathology b) Electrocoronogram
- c) Electrocardiogram d) None of above

Q.5 Pulse can be measured by _____.

- a) ECG b) MRI
- c) X-Ray machine d) Stethoscope

Q.6 Which of the following is not part of the skeleton

- a) Heart b) Ribs
- c) Tibia d) Radius

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 what is meant by Involuntary muscles?

Q.8 What is BMR.

Q.9 Define articulation.

Q.10 What is the function of synovial fluid?

Q.11 What are epithelial tissues?

Q.12 Name the joint present in pelvis.

Section-C

Note: Short answer type Question. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 Differentiate between Red bone marrow and Yellow bone marrow.

Q.14 Write a short, shot note on Ribs.

Q.15 Describe the mechanism of respiration.

Q.16 Write down the working principle of ECG.

Q.17 Draw the well labeled internal structure of king bone.

Q.18 Explain about the Vital capacity of the lungs.

Q.19 Describe the functional classification of joints

Q.20 Give the function of AV & SV valves?

Q.21 Write the method of measuring blood pressure.

Q.22 Differentiate between cardiac and smooth muscles.