

BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/MI-IP****Paper Name : Basic Anatomy and Physiology(Practical)****Full Marks - 20****Time - 3 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)***Answer all questions:**

1. Identification of supplied microscopic slides. (four slides). For each slide write two identifying characters -1, Identification -1.
2×4=8
2. Preparation and staining of squamous epithelium. 7
preparation of slide -5, diagram -2
3. Viva-voce 3
4. Laboratory Note Book 2

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/VAC 01P****Paper Name : Environmental Studies****Full Marks - 30****Time - 4 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)*

1. Submit a project on any of the following topic: Environment and health / Water pollution / Air pollution / Noise pollution / Food pollutants / Pesticide, fertilizer and food preservative linked pollution / Radioactive pollution /WASH. 20
2. Viva-voce 10

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/VAC 01P****Paper Name : Environmental Studies****Full Marks - 30****Time - 4 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)*

1. Submit a project on any of the following topic: Environment and health / Water pollution / Air pollution / Noise pollution / Food pollutants / Pesticide, fertilizer and food preservative linked pollution / Radioactive pollution /WASH. 20
2. Viva-voce 10

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/SEC 01****Paper Name : Phlebotomy and Sample Processing (Practical)****Full Marks - 40****Time - 4 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)*

1. Draw a blood sample from a subject using venipuncture and write the whole procedure stepwise. 5+5
2. Separate plasma from the supplied blood sample using centrifuge. 5
3. Prepare a thin smear using blood sample for microscopic observation. 5
4. Prepare a phlebotomy tray for smooth and safe phlebotomy procedure. 5
5. Laboratory Note Book. 5
6. Viva-voce 10

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/SEC 01****Paper Name : Phlebotomy and Sample Processing (Practical)****Full Marks - 40****Time - 4 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)*

1. Draw a blood sample from a subject using venipuncture and write the whole procedure stepwise. 5+5
2. Separate plasma from the supplied blood sample using centrifuge. 5
3. Prepare a thin smear using blood sample for microscopic observation. 5
4. Prepare a phlebotomy tray for smooth and safe phlebotomy procedure. 5
5. Laboratory Note Book. 5
6. Viva-voce 10

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/MJ-IP****Paper Name : Basic Haematology (Practical)****Full Marks - 20****Time - 3 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)*

1. Draw a blood smear from supplied blood sample and perform the Differential Count. 2+3
2. Estimate haemoglobin of the supplied blood sample by Sahil's method and interpret your results. Write the principle of that method. (4+1)+2
3. Practical Note Book. 3
4. Viva-voce 5

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/MJ-IP****Paper Name : Basic Haematology (Practical)****Full Marks - 20****Time - 3 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)*

1. Draw a blood smear from supplied blood sample and perform the Differential Count. 2+3
2. Estimate haemoglobin of the supplied blood sample by Sahil's method and interpret your results. Write the principle of that method. (4+1)+2
3. Practical Note Book. 3
4. Viva-voce 5

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12. What do you mean by rheobase and chronaxie ? Write the difference between isometric and isotonic contraction. Write the name of any one inhibitory neurotransmitter. 2+2+1
13. Discuss in brief about the ABO blood group. What is erythroblastosis foetalis ? 3+2
14. What is uremia? Write the composition of urine. Write in brief about the structure of Juxtaglomerular apparatus. 1+2+2

Group- C**Answer any one question: 10×1=10**

15. Why pituitary is known as master gland ? State the difference between type-I and type-II diabetes mellitus. Write the function of insulin hormone on carbohydrate metabolism. Write in brief about the function of thyroid hormone. 2+2+3+3
16. What are bicuspid and tricuspid valve of heart ? Discuss in brief about the various ventricular events of cardiac cycle. Describe in brief the modern concept of blood coagulation. 2+4+4=10

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/MI-IT****Paper Name : Basic Anatomy and Physiology****Full Marks - 40****Time - 3 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)***Group - A****Answer any five questions: (2×5=10)**

1. What do you mean by tidal volume and vital capacity ?
2. Write the difference between electrical synapse and chemical synapse.
3. Write the components of reflex arc.
4. Write the names of any two respiratory muscles.
5. What are bradycardia and tachycardia ?
6. Define GFR. Mention its normal value.
7. Write any two functions of Oxytocine hormone.
8. Write the names of different contractile proteins present in muscle.

Group - B**Answer any four questions: 5×4=20**

9. What is autonomic nervous system ? Write the difference between sympathetic and parasympathetic nervous system. What is ganglia? 2+2+1
10. Describe the process of lipid digestion. 5
11. What is 'Hypoxia' ? Describe in brief about O₂ -Hb dissociation curve. 2+3=5

13. Short note on Global warming. 5
 14. Write down the controlling measures of water pollution. 5

Group - C**Answer any one questions:(10×1=10)**

15. What are natural toxins ? Give examples. What kind of hazards are seen from metal contamination of Arsenic and Lead. 4+6
 16. What is noise index ? Describe the effect of excessive heat exposure on human body. What are primary and secondary pollutants ? 2+6+2

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/VAC01****Paper Name : Environmental Studies****Full Marks - 40****Time - 2 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)***Group - A****Answer any five questions:(2×5=10)**

1. What are the main components of WASH ?
2. What is asbestosis ?
3. Define food additive. Give any two examples .
4. Write the full forms of BOD and write its importance.
5. Name four diseases caused by contaminated and polluted water.
6. What is the difference between respirable dust and inhalable dust?
7. Write the acceptable level of fluoride in water.
8. Write the full forms of BOAA and MSG.

Group - B**Answer any four questions:(5×4=20)**

9. What is hygiene ? Write the non-auditory effects of noise pollution. 2+3
10. Define adulteration. What kind of adulterants are used in Ghee, Milk, Mustard seeds and Turmeric powder. 1+4
11. Discuss health hazards due to mercury pollution. Name two health issues caused by cadmium pollution. 4+1
12. What is radioactive pollution ? What are the sources of radioactive pollution ? 3+2

14. Describe the BSL-4 category of diagnostic laboratory.

Group - C

Answer any one questions: (10×1=10)

15. What are the safety levels adopted in BSL-1 Laboratory? Write the common causes of fire in the clinical pathology laboratory? What are the different types of fire extinguishers? What is the differences between ISO-9001 and ISO-17025? Describe the role of different coloured bags used in pathological laboratory.

2+2+2+2+2

16. What do you mean by cross contamination? What are the different factors that magnify cross contamination? What are the steps you will follow to minimize the cross contamination in your laboratory? Write the protocols followed in proper waste handling.

2+3+3+2=10

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BMLT First Semester Examination(ESE)- 2024

(CCFUP : NEP)

(4 Year UG-Programme)

BMLT

Paper Code :- UG/I/BMLT/4/MDC 01

Paper Name : Laboratory Ethics & Biosafety

Full Marks - 40

Time - 2 hours

(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)

Group - A

Answer any five questions: (2×5=10)

1. Write the full forms of CLIA and OSHA.
2. Write the difference between decontamination and disinfection.
3. Write the importance of autopsy.
4. What are the professional code of conduct and ethics?
5. What is the characteristic features to distinguish a BSL-2 laboratory from a BSL-1 laboratory.
6. Define medical laboratory ethics.
7. What are the protective equipments in pathological laboratory?
8. What is PPE?

Group - B

Answer any four questions: (5×4=20)

9. Write the applied value of ISO accreditation of a diagnostic laboratory.
10. Describe the medico-legal aspect of laboratory medicine.
11. What are the direct effect and indirect effect of biomedical waste?
12. Write the objectives of biosafety in laboratory medicine.
13. What special steps should be adopted during shipment of biohazard sample?

10. Discuss the working principle and components of a spectrophotometer. 3+2
11. Explain the working principle and components of a laminar flow hood and its applications in the laboratory. 2+1+2
12. How can you isolate the cellular organelles by centrifugation ?5
13. Describe the principle and applications of an autoclave in microbiological settings. 2½+2½
14. Outline the process of setting up and operating a colorimeter, and discuss its importance in biochemical analysis. 1½+1½+2

Group - C

Answer any one questions:(10×1=10)

15. Write the working principle and application of a blood cell counter. What are the safety measure to consider when using an autoclave in the laboratory ? 3+2
16. Describe the types and applications of incubators in laboratory medicine. Describe the role of the HEPA filter in a laminar flow hood. How does the hot air oven differ from an autoclave in terms of sterilization method. 6+2+2

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BMLT First Semester Examination(ESE)- 2024

(CCFUP : NEP)

(4 Year UG-Programme)

BMLT

Paper Code :- UG/I/BMLT/4/AEC01

Paper Name : Basic Diagnostic Instrumentation

Full Marks - 40

Time - 2 hours

(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)

Group - A

Answer any five questions: (2×5=10)

1. Define the working principle of a light microscope.
2. Write 'Beer-Lambarts' law.
3. Write any two major applications of a colorimeter in laboratory settings.
4. Differentiate between absorbance and transmittance in spectrophotometry.
5. Describe the difference between ordinary centrifuge and ultracentrifuge.
6. Mention any two applications of a laboratory incubator.
7. Write any one advantage of using a full auto-analyzer over a semi auto-analyzer.
8. Why is a hot air oven used alongside other sterilization methods like autoclaving ?

Group - B

Answer any four questions: (5×4=20)

9. Describe the components and application of a phase contrast microscope. 2+3

11. What is BT? What is its normal value ? Name two conditions where BT is raised. Write the normal value of CT. 1+1+2+1
12. i) Write the Principle of 'ABO' blood grouping by forward method.
ii) What are the findings in a blood smear for AML patients. 3+2
13. i) Discuss different steps of blood coagulation.
ii) Write any two pathological conditions where platelet count is decreased. 3+2
14. i) Write the clinical importance of high haematocrit value.
ii) Write the clinical significance of MCV.
iii) What do you mean by "shift to left". 2+2+1

Group - C**Answer any one questions:(10×1=10)**

15. i) What are the symptoms of bleeding disorder ?
ii) State the significance of platelet count.
iii) Which parameter are needed to test before marriage ?
iv) How do you diagnose thalassaemia in the laboratory ? 2+2+2+4
16. i) Write the definition of anaemia.
ii) Write briefly about the laboratory test for the detection of sickle cell anaemia.
iii) Write down the laboratory methods to determine the clotting and bleeding time. 2+5+3

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BMLT First Semester Examination(ESE)- 2024**(CCFUP : NEP)****(4 Year UG-Programme)****BMLT****Paper Code :- UG/I/BMLT/4/MJ 01T****Paper Name : Basic Haematology Theory****Full Marks - 40****Time - 4 hours***(The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable)***Group - A****Answer any five questions: (2×5=10)**

1. What is haemophilia ?
2. What is Bombay blood group?
3. Write the difference between plasma and serum.
4. What is β - thalassemia ?
5. Write the compositions of Leishman's staining solution.
6. Write two significance of ESR.
7. Write the clinical significance of D.C from a blood smear.
8. What is polycythemia vera ?

Group - B**Answer any four questions: (5×4=20)**

9. i) Name the anticoagulant used in the determination of ESR by Westergreen's method.
ii) What are the causes of low haemoglobin ?
iii) Write the condition where PCV increases. 1+2+2
10. i) State any four anticoagulants used in haematology laboratory with their functions.
ii) Write the importance of different types of leucocytes with their normal values. 2+3

P.T.O