

BANKIM SARDAR COLLEGE

Semester IV Examination 2020

B.Sc Honours

SUB : ZOOLOGY

PAPER : **SEC-B2**

Answers of each group should be in separate answer-sheet

ANSWER Q.1, Q.2 AND Q.3 COMPULSORILY AND ANY SIX FROM THE REST

Time : 2 hours

Total marks 90

GROUP A (1x10 =10 marks)

Q.1) i) Mueller Hinton Agar(MHA) is the most commonly used culture medium for routine Antibiotic Susceptibility tests by Kirby-Bauer method. Choose a statement which is FALSE about the use of MHA.

- a) It is a selective, differential medium, in which almost all plated organisms cannot grow.
- b) It contains starch, which absorbs toxins released from bacteria so that they cannot interfere with the antibiotics
- c) It is loose agar, which allows better diffusion of antibiotics leading to a truer zone of inhibition
- d) MHA shows acceptable batch to batch reproducibility for susceptibility testing.

Q.1) ii) Which of the following is true for PSA test?

- a) Prostate cancer risk is lower with higher bound PSA ratio
- b) Normal PSA levels in an adult male is 0-4ng/ml
- c) Faster your PSA score increases overtime, lower your risk of developing Prostate cancer
- d) The amount of PSA in your blood may decrease with conditions like Prostatitis.

Q.1) iii) Presence of Urochrome gives urine its normal pale yellow colour. In which pathological conditions, is Urochrome excreted through urine instead of urochromogen ?

- a) Glycosuria
- b) UTI
- c) Tuberculosis
- d) None of the above

Q.1) iv) ESR is a common hematology test, which measures the rate at which RBC's in anticoagulated whole blood descend in a standardized tube over a period of one hour. What is the purpose of the test?

- a) Detection of inflammation in body.
- b) Detection of number of erythrocytes
- c) Determination of abnormalities in RBC's
- d) none of the above

Q.1) v) Occurrence of symptoms like headache, jaw pain, difficulty in breathing, general malaise, left arm pain, upper back pain excessive sweating, heartburn, squeezing sensation in chest indicate :

- a) Ulcerative colitis
- b) Dyslipidaemia
- c) Septicemia
- d) None of the above

Q.1) vi) Choose the genetic condition that causes abnormal elevated levels of ALT and AST.

- a) Cirrhosis of liver
- b) Jaundice
- c) Hemochromatosis
- d) Metastatic cancer

Q.1) vii) What is meant by intermediary susceptibility of micro-organisms in AST?

- a) The microbe is controlled by MIC of antibiotics
- b) The microbe cannot be controlled by known antibiotics
- c) The growth of microbe is not completely arrested by the antibiotic, antibiotic concentration and duration needs to be increased
- d) All of above

Q.1) viii) E-test or Epsilometer test is used in Laboratories, as a method of Antibiotic Susceptibility test. What is its purpose?

- a) To determine MIC and susceptibility status of microbes
- b) To indicate the concentration of antimicrobial needed to successfully treat infection
- c) To determine AST and MIC of Gram positive and Gram negative aerobic bacteria
- d) All of the above

Q.1) ix) A person suffers from chronic Hepatitis B. Which test should be done every 3 to 6 months for surveillance of his health?

- a) LIPID PROFILE TEST
- b) AST
- c) LFT
- d) ESR measurement

Q.1) x) Symptoms of diabetes I and II are similar. Which test is specifically used to diagnose Type I diabetes?

- a) RANDOM BLOOD GLUCOSE TEST
- b) HbA1c TEST
- c) AUTOANTIBODY TEST
- d) FASTING AND PP SUGAR TEST

GROUP B (30 + 20 + 30 = 80)

Q.2 (10x3 = 30) , Q.3 (2x10 = 20) Q.4 to Q.11 (ANY 6, 6x5 = 30)

Q.2) A) What are tumours? What are their types? Write a note on benign tumours with examples. (2+3+5)

Q.2) B) What is PCV? Write the working principle of DLC using Leishmann's stain. What is the purpose of ESR test? (3+5+2)

Q.2) C) What does the ratio of free and unbound PSA suggest? How do the glucometer test strips work? What are the factors affecting glucose measurement? What is zone of Inhibition? (2+3+2+3)

Q.3) i) Hallmarks of metastasis.

Q.3) ii) Romanowsky stains

Q.3) iii) CLED Medium

Q.3) iv) Significance of PSA test.

Q.3) v) QBC test.

Q.3) vi) Which type of microscopic study and identification of malarial parasite is more accurate and why?

Q.3) vii) Viral cause of hepatitis.

Q.3) viii) What is medical imaging?

Q.3) ix) What is radiotracer? Why is it used?

Q.3) x) How is CT superior to conventional X-ray imaging?

Q.4) Write a note on Total Platelet count using haemocytometer.

Q.5) Discuss about the abnormal constituents found in urine.

Q.6) Working principle of a Glucometer?

Q.7) What is JBC stain? Write how this stain is prepared and staining procedure.

Q.8) Differentiate between primary and secondary hypertension.

Q.9) Discuss the limitations, benefits and risks of Bone-X ray.

Q.10) What is ALT, AST, ALP and Albumin tests?

Q.11) Differentiate between type I and type II diabetes. What are the benefits/uses of PET?