2002 B.Sc

Cerebo spinal Fluid.

Q. 1.

1. pH of blood is 7.35 - 7.45
2. T.P is measured by Biuret test
3. For estimation of glycosylated Hb blood is collected in EDTA bailb.
4. Normal CSF protein range is 15-45 mg/dl.
5. Alkaline phosphatase estimation is used for diagnosis of bone ~~cancer~~ & ~~post~~hepatic condition. Hepatic & Gall bladder
6. In myocardial ~~infarction~~ Infarction, AST Aspartate transaminase enzyme levels are test significantly. CK-MB,
7. Low serum sodium is observed in Diarrhea & dehydration
8. Creatinine level is test in Renal failure.
9. HDL lipoprotein is considered good.
10. In meningitis, CSF sugar is 0-40 mg/dl. < 15 mg/dl

Q. 2. Write the different methods with their principles used for blood glucose estimation. [5]

Q. 3 short notes. [any three] [15]

1. GTT.
2. Rate of Calcium in bone formation.
3. Flame photometry.
4. Diagnostic imp of SGOT & SGPT

Q. 4. Write about the kidney function test. [12]

Q. 5. Explain uses of. [08]

1. Centrifuge machine.
2. Indicatore
3. Turbidometer.
4. vacutainers.

2003

Bio

1 Short Notes. [15]

✓ GTT

Role of calcium in bone formation.

✓ Flame photometry.

✓ Diagnosis imp. of SGOT & SGPT 295

2. ✓ Write in detail about Kidney function test [10]

3. ✓ Explain the uses of [10]

Centrifuge machine

Indicator

Turbidometer.

Vacutainer.

4. ✓ Discribe the auto Analysers & it's advantage. [10]

5.

1 Molecular weight of glucose is 180

2 Normal pH of gastric juice of 1-1.5

3 Acid phosphate in Serum (Normal values.) (1-4 KAU)

4 cholestrol is solvable in Chloroform

5 Normality of 80% NaOH is 0.4N

16 2004

Q.1 Write short notes on any three.

1. Advantages of autoanalysis.
2. Abnormal constituments of urine with clinical significance
3. Diagnostic importantance of Acid phosphatase and Alkaline phosphatase.
4. Spectrophotometer.

Q.2 Write in details about liver function tests.

Q.3 Explain the use of.

1. Vacutainer.
2. Flame photometer
3. Benedict's reagent
4. blood gas analyser.

Q.4. Mention the different methods of Bl. glucose analysis & describe any one of it with normal values and clinical application. [10]

Q.5 Write the correct answer. [5]

1. pH range of phenolphthalein indicator 8.6 to 10
2. Thymol is used as preservative of urine sample.
3. Normal value of total serum protein 6-8.5
4. Normal value of chloride in cerebrospinal fluid (CSF) → 700-750 mg/dl
5. 0.1 N NaOH soln. has 4 gms of NaOH crystals.

Internal Examination MLT 2007 Batch

B:D

1 Write down the answer of any two in detail [14]

a) Enumerate the name of the tests, normal range & clinical significance to be included in liver function test and describe How can it be useful to different type of jaundice.

What are the abnormal constituents present in urine. (Write in relation to biochemistry.)

b) Oral Glucose Tolerance test. please write it indication pre-requisite, method & diagnostic value.

2. Write down short notes any three of the following [15]

i. Diff. between Semi Auto analyzer & fully Auto analyzer.

ii. Q.C & Calibration

iii. Use of Arterial Blood gas analyzer

iv. Creatinine clearance test & it's significant.

3. Write answer in few line of any five. [10]

a. Heamolysed sample are rejected from biochemistry analysis.

b. Preventive measure during sample centrifugation.

c. How to make 1 liter soln. of 2.0 N NaOH

d. How to make 1 ml. quantity of 2.0 mg % creatinine standard from 100 mg % creatinine stock soln.

e. CK-total is less reliable than CK-MB to evaluate cardiac function of patient

f. calibration of pipette.

Q.4. Filling the blanks.

1 Normal FBS level is from 70 to 110 mg %. & for that patient's blood sample must be collected in floride containing bulb / vial.

b. HDL cholestrol is good for health while LDL cholestrol is bad for health.

2005 - Interval B.Sc

Q.1 Fill in the blanks: [10]

1. Normal range of Fasting plasma glucose level in adult is 70-110 mg %.
2. Normal level of Fasting serum triglyceride is <150 mg %
3. 50-160 reaction is the basis of estimation Serum bilirubin.
4. Normal range of Serum calcium is 8.5-11 mg %
5. Serum electrolyte estimation is done by Flame photometry.
6. Fibrinogen is a plasma protein which is absent in serum.
7. Non-nitrogenous waste materials are urea, creatinine & Uric Acid.
8. Serum proteins can be seprated by Electrophoresis technique based on charge carried by protein molecule.
9. Albumin is the main protein lost in urine in nephrotic syndrome.
10. Rothera's (Powder) test is done to detect ketone bodies in urine.

Q.2 Write correct answer. [5]

1. _____ is passed in urine in glycos-uria.
   a) Sucrose b) Lactose. c) Glucose.
2. Serum VLDL conc. is equal to _____
   a) TG/5 b) LDL/5 c) Total chol./2
3. Normal range of plasma fibrogen _____
   a) 50-150 mg % b) 200-300 mg % c) 100-400 mg %.
4. Normal A:G ration is _____
   a) 1.1 b) 1.5:3 c) 1.5:2.1
5. _____ level Tes in acute ~~myocardies~~ Myocardial infraction (Heart)
   a) CPK mm (Muscle) b) CPK BB (Brain) c) CPK MB.

Q.3 give reason. [10]

1. Haemolysed Sample is not used for serum LDH assay.
2. Blood collected in plain balb can't be used for glucose Estimation.

B/D

3. White detecting protein in urine by heat coagulation test only upper part of T.T is heated.
Benedict's test is not reliable to detect glucose in urine
Enzymatic method of cholestrol estimation of is always reliable than any other methods.

Q.4. Write short notes. any three. [12]

1. principle of Flame photometry.
2. Auto analyzers & their advantages.
3. preparation of balbs for blood sample collection.
4. Internal quality contra management.
5. Internal quality contra management.

Q.5 Discuss principle procedure & clinical Significance of Serum total protein Estimation by Biureat method. [13]

CKMB - creatine kinase Myocardial

2006

B10

Any three. [15]

Abnormal constituents of urine.

Different methods of blood glucose estimation & describe any one

- Autoanalyzer.
- Quality control procedure in lab.

Q.2. Discuss estimation of total protein, albumin, globulin. & A.G reaction with normal value & interpretation.

Q.3. Explain [10]

1. Centrifuge & their uses.
2. Disposal of various types of lab waste.
3. Collection & storage of pt's specime for bio chemistry analysis
4. Name method & state principle of estimation of blood urea.
5. precautions taken for enzymation method of estimation.

Q.4. Out life of the various LFT with diagnostic value. [10]

1. in healty adult the normal serum creatinine value is 0.1-1.4
2. The plasma proteins can be seprated by _____
3. In thyroid Function test the hormones estimated are _____
4. CSF protein is estimated by _____ method.
5. In colorimeter the relation between absorbance & transmittance is given by equation A. = _____

paper - III

Section - II Pharmacology

2012

Time - 2 hours.

1. Writes notes on Any foare of the following [16]

Oral contraceptives ✓ 150

stock register

Albendazole

Antiseptics ✓ 63

Smocking paper & it's method of Fixing.

chloroquine ✓ From S. Book.

2. i classify anticeptic drugs. Describe use adverse drug reaction & contraindication of phenytoin sodium. ✓ [10] from Pharm S. Book

OR

Describe various parenteral routes of drug administration Describe in details those routes of drug administration which can be used in emergency condition.

3 Match the Following. [8]

a. RNTCP	Adverse effects
b. Pharmaco kinetices	J Iron
d Spinach	h Pesticide poisoning
d. Megaloblastic anemia	f Anaphylactic reaction
e Calcium	Vitamin B-12
f. Adrenaline	b Drug Absorption.
g. pharmaco dynamics	a Tuberculosis.
h. Atropine	e Osteoporosis.

4. Describe the procedure employed to study the effect of analgesic agents in rats. ✓ also Refer Ganeva S-Book

5. Give one important use of each of the Following [6]

a. Salbatarnol.

b. Folic acid.

c. Ibuprofen.

2005 Bio

1 Write short notes on any three. [15]

Serum Electrolyte composition & Analysis techniqeue 411

Oral Glucose Tolerance test 195

collection, Handling & storage of patient specimens for Biochemical Analysis. 163

Quality control procedures in bio-chemistry laboratory. 150

2 Discuss lipid profile testing, Normal values & the principle of Estimation - 371 [10]

3 Explain. [10]

1. Difference between colourimeter & spectrophotometer 55

Calibration of pipettes. - 22

Disposal of various types of laboratory waste

Advantages of Enzymatic methods of Estimation.

Buffer solution.

4 Outline the various chemical tests for urine & CSF to deqect Abnormal constitents. [10]

5 Fill in the blanks with correct [5]

1 CSF Glucose level is often slightly lower 213 than the Blood Glucose level

2 In a colourimeter the relation between Absorbance (A) and Transmittiance (T) Is given by Equation $A = -\log T$

3. Rothera's test is a sensitive test for detection of ketone in urine but it does not detect beta-hydroxy Butyric acid.

4. Normal maximum urea clearance value in an Adult is 60 - 75

5. K^+ & Na^+ & LDH Estimation with give False Error value if the serum / plasma sample used is visibly Hemolysed

19 - 2007 B10

Q.1 Short notes [15]

1. Biosafety management in lab.
2. Composition of cerebrospinal fluid (CSF)
3. Auto analyzer.
4. Diagnosis imp. of total, Direct & indirect Bilirubin Estimation

Q.2 Write about cardiac functional test. [10]

Q.3.

1. Calibration of pipettes.
2. Internal quality control.
3. Name method & state the principle of estimation of serum acid phosphatese.
4. preparation taken for enzymatic method of Estimation.
5. Electrophoresis (principle & uses.
6. Mention the different methods serum urea Estimation & describe any one & it with normal value of clinical applications. [10]

Q.5. Write any five. [5]

1. uses of blood gas analyzer
2. Beer's law
3. Normality & molarity
4. clinical application of SGPT Estimation.
5. principal of GOD POD method

20th - 2008

Bio

1 Write short notes on (any three) [15]

a) Cardiac enzymes CKMB - SGOT 341 385

b) Bio-Safety

c) Auto-Analyzers. 123

d) Diagnostic imp. of Bilirubin estimation. (Total, direct, indirect) 344, 339

2. Write in detail about. [10]

Urine analysis. OR

Lipid profile and its clinical significance

3 Explain in short (any Five) [10]

a) principle & uses of electrophoresis. - 86

b) Internal quality control in clinical Bio-chemistry lab. - 186

c) Collection of Blood sample 163

d) Method of serum creatinine estimation - 242, 140

e) Normal range and imp. of serum urea level. 235

f) Calibration of colorimeter.

4. a) Mention different methods for plasma glucose estimation. Describe any one method in detail & clinical imp. of Blood sugar. Or - 202 [10]

b) Estimation of serum proteins & their clinical interpretation imp. of AG ratio. 265

5 Ans in few lines. [5]

a) Beer's law 424

b) Uses of blood gas analyzer. 31, 32

c) Normality and Molarity. - 351

d) Name liver function tests.

e) importance of CSF Analysis - 453

21 - 2009

BIO

Q.1 Short Notes. (Any three.) [12]

a) Blood gas analyzer.

b) Quality control in laboratory.

c) Storage and transportation of patient specimen for biochemical analysis.

d) Electrolyte analyzer.

Q.2 Describe the technique of collecting blood using vaccutte tubes & mension the various types of vaccuttees and their uses. [8]

Q.3 Explain in short (Any four.) [10]

a) principles and uses of electrophoresis.

b) Disposal of various types of laboratory wastes.

c) C.S.F Analysis.

d) Celibration of pipettes.

e) Total protein, Albumin ; Globulin ratio. & Albumin ratio.

f) Role of technician in maintance of laboratory equipments.

Q.4. Expand the following terms and explain in few lines. [10]

1. ELISA
2. G6PDH
3. LDL
4. CLIA
5. TSE
6. CPK-MB
7. RBS
8. % CV
9. NABL
10. EQAS

Q.5 Answer in few lines (Any five) [10]

1. Why estimation of glucose requires blood collection in Floride vials ?
2. Why reagent kits in many bio-chemical investigations are stored in refrigerators at 2 to 8 degree centrifuge temp ?
3. Why tourniquet should not be tied up on patients arm for more than two minutes prior to blood collection.
4. Why fasting blood sample is required for lipid profile testing.
5. Why hemolysed blood samples are not acceptecable for biochemical investigation ?

2010

BIO

1 short notes (Any three) [12]

(a) Chromatography - 91

(b) GTT

(c) pH meter 104

(d) Blood gas analyzer 429

2) Discuss diffrenet types of Jaundice and their clinical investigations. [8]

3) Explain in short (any four.) [10]

a) kinetic & end point analysis.

b) precautions taken against injected samples in the laboratory

c) Sample blank is run during bilirubin estimation.

d) potassium estimation is not done in hemolished samples.

e) clinical importance of A/G ratio - 265

4 Explain the following terms in new sentences. [10]

(Any five)

a. Linearity of Bio-chemicals kits.

b. Standard deviation.

c. precision near to each other

d. Accuracy actualy near

e. L.J graph F. CV %

5) Explain in few lines. (Any five) [10]

a. Sucrose is a non reducing sugar.

b. Unconjugate bilirubin can not appear in the urine.

c. Sodium Bicarbonate in blood is called alkali reserve of our body.

d. Albumin is precipitated by half saturation but globalin needs full saturation by ammoniam sulphate for precipitation

e Bile salts are present in urine in obstructive jaundice.

f. proper serum separation of Blood sample before centrifugation is important.

6) Difine Normality, Molarity, grams, percentage milliequivalent per liter of solution.

23rd - 2011

Bio

1.1 Write short notes on any three [9]

1. Needle prick injury - causes treatment and prevention.
2. Centrigugation of blood samples.
3. Computers in laboratary.
4. Good laboratary practice (GLP) ✓

2. Write about operation of automated chemistry analyser of your department. [6]

3 Explain 2.0

1. Calibration of Bio-chemistry tests.
2. External quality control.
3. Ion selective electrods. ✓
4. Factors affecting enzyme activity.
5. Electrophoresis.

2.4. Describe principle of any Five method of Bio-chemistry tests. [10].

2.5. Write in short

1 NABL accreditation ✓

2 Fire in the laboratary - cause, Fighting & prevention.

3. ELISA.

4. Bio-medical waste disposal.

5. How to write spp. (sop.)

NABL :- National Bord for Accreditation of calibration & testing laboratories.

LDL :- Low density lipoprotein

PPBS :- Post Prandial blood sugar

ISE :- Ion selective electrode

2012

~~Anatomy~~ Pathology

1 Write short notes. Any four. [20]

Enumerate anticoagulants used in hematology mention their advantages & disadvantages.

List screening tests used for sickle cell anaemia. Discribe any one test in detail.

Maintainence of cell counter.

Tissue processing in histopathology.

Discuss procedure for mounting museum specimen.

2 Write short Notes (Any three). [15]

. What is Frozen section. List Advantages & disadvent of Frozen section.

Discuss microtome & knifes used in histopathology.

List methods for ESR & Discuss any one method in detail.

Write down criterias for peripheral smear preparation.

3. Write short now. (any three) [15]

. Physical examination of stool.

. Describe methods of Bile salt & Bile pigment detection urine

Investigate a case of mis match blood transfusion in a blood bank

. Enumerate methods of blood grouping. Describe technial of blood grouping by Gel card.

Microbiology 24th ~ 2012 Paediatrics Micro

Time - 2 hours.

Q.1 Answer any three. [18]

a. Antibiotic sensitive testing.

b. Moist heat sterilization.

c. Name organisms causing malaria. Write pathogenicity & Lab diagnosis of malaria.

d. What is serology? classify Serological tests. Write in detail about agglutination with examples.

Q.2 Write short notes on any four. [20]

a. IgM

b. Hepatitis B

c. Kebalt koch

d. Type III Hypersensitivity

e. Standard tests for syphillis.

Q.3 Answer any three. [6]

a. Lab diagnosis of palmonary tuberculosis.

b. Laboratory diagnosis of roundworm.

c. Which microscopy and culture techniques are used in the diagnosis of fungal infections.

d. Write difference between active and passive immunity.

Q.4. Ans. in 1-2 sentences. Any six. [6]

a. What is TORCH test?

b. Name two selective media.

c. What is toxoid?

d. Write two zoonotic bacterial diseases.

e. Name two bacteria causing dysentery.

f. What is cryptococcus? What does it cause?

g. Name two disinfectants.

h. Enumerate two tests useful for the diagnosis of HI

BIO

2. Serum total protein is estimated by Biuret / BCG method and serum Albumin is estimated by BCG method
1. Serum creatinine is normal up to 1.4 mg % & it depend on muscle of individual.
2. colourimeter is work on Lembert beer's principle but it does not have 340 nm filter.
3. Inpyogenic meningits CSF will be having increase amount of _____ while very less concentration of _____

Q.5. please select most appropriate answer from given option. [5]

1 Which one is more sensitive method for protein estimation
a) ELISA b) sulphosalicylic acid methd c) Berthlot d) Turbidometry
2 GOD - POD is _____ method for glucos estimation
a) kinetic b) Sensitive c) specific d) End-point e) C & D.
3. In electrophoresis if albumin band is found very less dence, it mainly due to.
a) Hyper proteinimia. b) paraproteinimia. c) hypoalbuminia d) all.
4. Leavy Jenning graph is related to.
a) Internal Q.C b) External Q.C c) both A & B d) None.
5. Normal range of serum Na^+ & K^+ is.
a) S. Na^+ = 135 - 145 mg % & S. K^+ = 3.5 - 5.0 mg %
b) S. Na^+ = 125 - 145 mg % & S. K^+ = 3.5 - 6.0 mg %
c) S. Na^+ = 135 - 145 m mol/L & S. K^+ = 3.5 - 5.0 m. mol/L
d) S. Na^+ = 145 - 165 m mol/L & S. K^+ = 5.5 - 6.5 m mol/L
6. O.D =
a) 1/T % b) log T % c) 2 - log % d) 1 - log T %
7 After sample receiving Gloze is dispose in _____ bag.
a) Black b) Blue c) Red d) Yellow.
8. person, having Hypocholesteremia is more prone to Devlop _____ in fature
a) Diabetes mellitus c) Hecart disease.
b) Renal failure d) pancreatitis

Which bio-chemistry test is more speciqic for diagnosis of disease related to gay bladder.

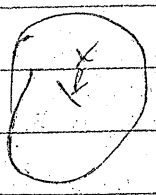
a) Billirubin
b) Alanine Transaminase
c) Aspartate Transaminase.
d) Alkaline phosphatase.

2. What are the component that not present in serum bat present in plasma.

a) RBC & Fibrinogen.
b) urea & clotting Factor.
c) RBC & urea
d) Fibrinogen & clotting Factor
e) A & D.

1. In liver Bilirubin is conjugate with _____ & becam _____ in water.

a) Glacuronic acid, solable
b) Gluconic acid, unsolable.
c) Glacaronic acid, unsolable
d) Glaconic acid, solable



K^+ Intracellular
K^+ Na^+ Extracellular.

$$\text{Creatinine Clearance} = \frac{U \cdot V}{P} \times \frac{A}{1.73}$$

(90 - 100 ml/min)

A = Body Surface Area.
U = Urinary Creatinine.
P = Serum "
V = Urine Volume in ml in 1 min

External

B.D

Q.1 Any three. [15]

1. Biomedical waste management.
2. Fully automated bio-chemistry analyzer.
3. Method types & clinical application of electrophoresis.
4. How to prevent pre-analytic & post analytic variation in result of the sample.

Q.2 Any one [10]

Write detail about individual parameters of the LFT including principle of method value, precautions to maintain accuracy & its clinical Significance.

OR

Write detail about individual parameters of the Renal function test, including principle of Method normal value, precautionas to maintain accuracy & it's clinical signiicance. Explain renal clearance test.

Q.3. Give answer in short [10]

1. For plasma glucose Estimation. Why blood sample is collected in Fluoride containing vial ?
2. "Bear-Lambert" law for colorimeter.
3. Calibration of micro-pipettes.
4. Sagety measure during working in laboratory.
5. Glycated Hemoglobin.

Q.4. Write any one. [10]

Write detail about quality control in bio-chemistry laboratory. Describe various types of Qc, Various types of Sample for Qc and their advantages. Describe various action required for out of range Qc values.

OR

Bio

Write Urine analysis in detail, including physical characteristics for identification of abnormal constituites in urine. Describe their clinical significence

5 Fill in the blanks. (5)

To prepare 2 mg creatinine standard in quantity of 1 ml From 100 mg stock solution, mix 20 µl stock soln with 980 µl D.W.

For 0.5 N NaOH, 20 gm NaOH is dissolving in 1 liter dil. water.

Iq serum cholestrol is 170 mg % serum Triglyceride is 100 mg % & serum S. HDL cholestrol is 50 mg % patient VLDL cholestrol & LDL cholestrol will be 20 mg % & 100 mg % respectivity.

Normal value of serum Na^+ is from 135 to 145 m mol/L & Normal value of serum K^+ is From 3.5 to 5 m mol/L (mmol/L = meaual/L)

In metabolic acidosis, pH of blood is Low & bicarbonate ion (HCO_3^-) Concentration is High

(Write only HIGH / Low)

A/G. Ratio :.

S. Albumin

S. Globulin

S. Protein Total

A/G Ratio :- 1:1

Significant :-

$N_1 \cdot V_1 = N_2 \cdot V_2$

$V_1 = 1$