

St. Philomena's College (Autonomous), Mysore			
PG Department of Biochemistry			
Question Bank (Revised Curriculum 2020-21 onwards)			
First Year- First Semester (2020-21 Batch)			
Course Title (Paper Title): Clinical Biochemistry(SC) QP Code - 84132			
Sl. No	Unit	Questions	Marks
1	1	Define cell death.	2
2	1	Define hyperplasia & dysplasia.	2
3	1	Define Health and Disease.	2
4	1	Enlist the biological agents responsible for cell death.	2
5	1	Enlist the chemical agents responsible for cell death.	2
6	1	Define cell injury. Name the agents responsible for it.	2
7	1	Define Atrophy & Hypertrophy	2
8	1	How metaplasia differs from dysplasia?	2
9	1	Enlist the pathological factors responsible for cell death.	2
10	1	What is cell death?	2
11	1	Mention the importance of isoenzymes in clinical diagnosis.	2
12	1	Name any two isoenzymic forms of LDH with clinical significance.	2
13	1	What are isozymes? Give an example	2
14	1	How apoptosis differs from that of Necrosis?	2
15	1	Name any two isoenzymic forms of CK with clinical significance.	2
16	1	What are Transaminases? Give an example.	2
17	1	Give the clinical importance of Serum Amylase.	2
18	1	Give the clinical importance of Acid Phosphatases.	2
19	1	Give the clinical importance of Alkaline Phosphatases.	2
20	1	What are isoenzymes? Give its importance in clinical diagnosis.	2
21	1	Mention the importance of isoenzymes in clinical diagnosis.	2
22	2	Define Hypoglycemia & Hypoglycemia.	2

23	2	Mention the types of diabetes	2
24	2	Define homeostasis	2
25	2	What are advanced glycation products? Give its significance	2
26	2	Mention the clinical symptoms seen in fructose intolerance.	2
27	2	Define blood sugar homeostasis.	2
28	2	Mention the role of insulin in blood sugar homeostasis.	2
29	2	Mention the role of glucagon in blood sugar homeostasis.	2
30	2	What is HbA1c? Give its importance.	2
31	2	Give the classification of Diabetes Mellitus.	2
32	2	Give the significance of GTT.	2
33	2	What is lactose intolerance? How to overcome it.	2
34	2	What is reverse cholesterol transport?	2
35	2	What is Galactosemia? How to overcome it.	2
36	2	What is glycated hemoglobin? How it is used in diagnosis of DM.	2
37	2	What is petosuria? How to overcome it.	2
38	2	List the genetic defects seen in patients suffering from lactose intolerance	2
39	2	What is Alcoholic fatty liver?	2
40	2	What is fatty liver? How is it caused?	2
41	2	What is the molecular defect seen in Niemann-pick disease?	2
42	2	What are foam cells? How are they made?	2
43	2	Define Atherosclerosis	2
44	2	Mention the clinical symptoms seen in Tay-Sach's Disease.	2
45	2	Mention the etiology and symptoms of Gaucher's Disease.	2
46	2	Differentiate between LDL and Ox-LDL.	2
47	3	Enlist the clinical manifestations seen in alkaptonuria.	2
48	3	Distinguish between Hypouricemia and Hyperuricemia.	2
49	3	Name the molecular defect and symptoms seen in alkaptonuria.	2

50	3	What causes Orotic aciduria? How to overcome it.	2
51	3	What causes Gout? How do you diagnose it.	2
52	3	What is cystinuria?	2
53	3	Enlist the clinical manifestations seen in albinism.	2
54	3	What causes maple syrup urine disease?	2
55	3	What is the molecular defect seen in alkaptonuria?	2
56	3	What is the molecular defect seen in Phenylketonuria?	2
57	3	List the clinical manifestations seen in Phenylketonuria.	2
58	3	What is CRP test? Give its importance.	2
59	3	What is Rheumatoid Arthritis test? Give its importance.	2
60	4	How gall stone are formed? How they differ from renal stones.	2
61	4	What is Jaundice? What causes it?	2
62	4	What is liver Cirrhosis?	2
63	4	What are mineralcorticoids? Give an example.	2
64	4	What are gall stones? How are they formed?	2
65	4	What is steatorrhea? How it differs from Diarrhea.	2
66	4	Enlist the causes for gastric ulcer.	2
67	4	What is stimulation test? Give its significance.	2
68	4	Name the different types of peptic ulcers.	2
69	4	What is Diarrhea? How it is different from Stearrhea?	2
70	4	Mention the causes and symptoms of Steatorrhea.	2
71	5	Define Glomerular Filtration Rate.	2
72	5	What are Creatinine clearance tests?	2
73	5	Enlist the abnormal constituents of urine.	2
74	6	Mention the clinical symptoms seen in Grave's Disease	2
75	6	Mention the clinical symptoms seen in Hashimoto's Disease.	2
76	6	Mention the functioning of Hypothalamus-Pituitary-Adrenal axis.	2

77	6	Give the symptoms and therapy for hypothyroidism.	2
78	6	Mention the symptoms and therapy for hyperthyroidism.	2
79	6	Distinguish between Acromegaly and Gigantism.	2
80	6	Mention the clinical symptoms seen in Addison's Disease	2
1	1	Elaborate on cell injury and cellular adaptations.	5
2	1	Write short note on Necrosis.	5
3	1	How are clinical enzymes useful in diagnosis of diseases? Explain with examples.	5
4	1	Explain the physiological causes responsible for cell death.	5
5	1	Explain cell injury and cellular adaptations.	5
6	1	Give an account on normal & pathological changes affecting cells in the body.	5
7	1	Write short note on Necrosis.	5
8	1	Explain the application of Transaminases in detection of a disease	5
9	1	Explain the mechanism of elevated enzyme activities in disease diagnosis.	5
10	1	How LDH is used in prognosis & diagnosis of a disease? Explain	5
11	1	Explain the role of serum enzymes in clinical diagnosis.	5
12	2	Comment on Galactosemia & petosuria.	5
13	2	Comment on fructosuria & fructose intolerance	5
14	2	Discuss on glycogen storage diseases.	5
15	2	Give an account on glycogen storage diseases.	5
16	2	Discuss on classification, metabolic abnormalities, diagnosis and management. for Diabetes Mellitus	5
17	2	Discuss on complications & laboratory investigations for Diabetes Mellitus	5
18	2	Give an account on glycogen storage diseases.	5
19	2	Discuss on types, metabolic abnormalities s & laboratory investigations for Diabetes Mellitus	5
20	2	Comment on Galactosemia & petosuria.	5

21	2	Give the classification, etiology, clinical manifestation and treatment of Diabetes Mellitus.	5
22	2	Explain congenital errors of carbohydrate metabolism with an suitable example.	5
23	2	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Lactate intolerance and Petosuria.	5
24	2	Briefly explain the general physiological markers ad phenotypes for and classify Diabetes. Mention the treatment plan for each class.	5
25	2	Give the classification an major functions of lipoprotein. Add a note on reverse cholesterol transport.	5
26	2	Enlist the risk factors contributing to the pathogenesis of cardiovascular diseases.	5
27	2	Describe Niemann-pick disease.	5
28	2	Explain the prognosis and risk factors of Atherosclerosis.	5
29	2	Give an account on Lipoproteinemias.	5
30	2	Explain different types of Lipoproteinemias. Add a note on Atherosclerosis.	5
31	2	Explain Tay-Sach's Disease.	5
32	2	Explain Gaucher's Disease.	5
33	2	Write a brief note on causes and treatment for cardiovascular diseases.	5
34	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Phenylketonuria	5
35	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Gout	5
36	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: alkaptonuria	5
37	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: albinism	5
38	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: maple syrup urine disease	5
39	3	Explain Rheumatoid arthritis (RA) test & CRP test	5
40	4	Write short note on types, treatment and diagnosis for Jaundice	5
41	4	Which are the tests to be done to assess the proper functioning of Liver?	5

		Describe in detail.	
42	4	What are liver function tests? Explain in detail.	5
43	4	Explain the formation of Bilirubin.	5
44	4	What are bile pigments? Explain the formation of Bilirubin.	5
45	4	Write short note on Jaundice.	5
46	4	How Bilirubin is an excellent diagnostic tool for monitoring liver function?	5
47	4	What are gastric function tests? Explain in detail.	5
48	4	List the differences and similarities between hypo and hyper secretion acidity. How do they affect Malabsorption syndrome.	5
49	4	Write short note on fractional gastric analysis and give its significance.	5
50	4	Write short note on Malabsorption syndrome.	5
51	4	Explain Zollinger Ellison syndrome.	5
52	4	Explain the tests related to excretory & synthetic function of liver.	5
53	4	Explain the tests related to detoxifying and metabolic function of liver.	5
54	4	Write short note on Hepatitis.	5
55	4	What are gall stones? Explain their formation.	5
56	5	How renal functions are assessed in clinical laboratory?	5
57	5	Which are the tests to be done to assess the proper functioning of Kidney? Describe in detail.	5
58	5	Give an account on Abnormal constituents of urine.	5
59	5	What are kidney function tests? Explain in detail.	5
60	5	What are Glomerular function tests? Explain in detail.	5
61	5	What are tubular function tests? Explain in detail.	5
62	5	What are kidney clearance tests? How are they used as diagnostic tools?	5
63	5	How renal function can be assessed in clinical laboratory?	5
64	6	Choose an endocrine disorder of your choice, explain the molecular defect associated with it and how it diagnosed in clinical laboratory.	5
65	6	Write an explanatory note on hypo and hyper secretion of hormones.	5

66	6	Explain the causes, defects and diagnosis of any one disorder of your choice related to pituitary gland.	5
67	6	Write short note on Grave's Disease.	5
68	6	Choose an endocrine disorder related to pituitary gland; Explain the molecular defect associated with it and how it diagnosed in clinical laboratory.	5
69	6	Explain the causes, defects and diagnosis of any one disorder of your choice related to thyroid gland.	5
70	6	Explain the causes, defects and diagnosis of any one disorder of your choice related to Adrenal Gland.	5
71	6	Give an account on hypo and hyper secretion of hormones with suitable example.	5
72	6	Explain how hypo and hyper secretion of growth hormone affect the system? How are they diagnosed?	5
73	6	Explain Thyroid disorders	5
1	1	How Clinical enzymes are useful in diagnosis of diseases? Explain in detail.	10
2	1	Explain the mechanism of elevated enzyme activities in prognosis and diagnosis of disease	10
3	1	Give an account on application of serum enzymes in prognosis and diagnosis of a disease.	10
4	2	How blood sugar level is regulated? Explain.	10
5	2	Give an account on role of hormones and tissues in maintaining blood glucose homeostasis.	10
6	2	Give an account on metabolic abnormalities, diagnosis, management & Laboratory Investigations for Diabetes Mellitus	10
7	2	Give an account on congenital errors of carbohydrate metabolism.	10
8	2	Explain the Lipid storage diseases.	10
9	2	Elaborate on Risk Factors , Pathogenesis , Diagnosis And Prognosis of Atherosclerosis .	10
10	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Gout and maple syrup urine disease	10
11	3	Explain congenital errors of Amino acid metabolism with an suitable example.	10

12	3	Give an account on congenital errors of Amino acid metabolism.	10
13	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Gout and Phenylketonuria.	10
14	3	Explain congenital errors of Nucleic acid metabolism with a suitable example.	10
15	3	Give an account on congenital errors of Nucleic acid metabolism.	10
16	3	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Phenylketonuria and Hyperuricemia	10
17	4	Explain the liver function tests in detail.	10
18	4	Give an account on Malabsorption Syndrome & Zollinger Ellison syndrome	10
19	5	Explain the biochemical findings in detection of kidney disorders	10
20	5	Give an account on Glomerular & tubular function tests.	10
21	6	Choose an endocrine disorder related to thyroid gland; Explain the molecular defect associated with it and how it diagnosed in clinical laboratory	10
22	6	Choose an endocrine disorder related to pituitary gland; Explain the molecular defect associated with it and how it diagnosed in clinical laboratory	10
23	6	Choose an endocrine disorder related to adrenal gland; Explain the molecular defect associated with it and how it diagnosed in clinical laboratory.	10
24	6	Explain Graves disease & Addison's Disease	10
25	6	Explain thyroid diseases.	10
26	6	Explain the disorders related to pituitary gland.	10
27	6	Explain the concept of hypo & hyper secretion of hormones with suitable example.	10
28	6	Explain Hashimoto disease & Addison's Disease	10
29	6	Explain the concept of hypo & hyper secretion of hormones with pituitary hormones as an example.	10
30	6	Explain the concept of hypo & hyper secretion of hormones with thyroid hormones as an example.	10

Model Question Paper		
St. Philomena's College (Autonomous), Mysore		
I Semester M.Sc-Final Examination		
Subject: Biochemistry		
Title: Clinical Biochemistry (SC)		
Time: 3 Hours		Max Marks: 70
PART-A		
Answer any TEN of the following:		10x2=20
1.	Define hyperplasia & dysplasia.	2
2.	Name any two isoenzymic forms of CK with clinical significance.	2
3.	What are advanced glycation products? Give its significance	2
4.	Define homeostasis.	2
5.	What causes Orotic aciduria?	2
6.	What is Hyperuricemia?	2
7.	Enlist the causes for gastric ulcer.	2
8.	What is stimulation test? Give its significance.	2
9.	What are Creatinine clearance tests?	2
10.	Define Glomerular Filtration Rate.	2
11.	Distinguish between Acromegaly and Gigantism.	2
12.	Mention the clinical symptoms seen in Addison's Disease	2
PART-B		
Answer any SIX questions:		6x5=30
13.	Write short note on Necrosis.	5
14.	Discuss on glycogen storage diseases.	5
15.	Give the symptoms, molecular defects and treatment options for the following metabolic disease: Gout & Galactosemia.	5
16.	Write short note on Jaundice.	5

17.	Give an account on Abnormal constituents of urine.	5
18.	Write an explanatory note on hypo and hyper secretion of hormones.	5
19.	Explain Rheumatoid arthritis (RA) test & CRP test	5
20.	Explain different types of Lipoproteinemias. Add a note on Atherosclerosis.	5
PART-C		
Answer any TWO questions:		2x10=20
21.	Give an account on role of hormones and tissues in maintaining blood glucose homeostasis.	10
22.	Give an account on congenital errors of amino acid metabolism.	10
23.	Give an account on Malabsorption Syndrome & Zollinger Ellison syndrome	10