National Board of Examinations

Question Paper Name :	DNB Biochemistry Paper1
Subject Name :	DNB Biochemistry Paper1
Creation Date :	2024-05-15 21:34:11
Duration :	180
Share Answer Key With Delivery Engine :	No
Actual Answer Key :	No

DNB Biochemistry Paper1

Group Number :	1
Group Id :	3271871911
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Group Marks :	100
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

DNB Biochemistry Paper1

Section Id :	3271871914
Section Number :	1
Section type :	Offline

Mandatory or Optional :	Mandatory
Number of Questions to be attempted :	10
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	3271871918
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718730414 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Please write your answers in the answer booklet within the allotted pages as follows:-

Question Number	Answer to be attempted within	Question Number	Answer to be attempted within
Q. 1	Page 1-5	Q. 6	Page 26-30
Q. 2	Page 6-10	Q. 7	Page 31-35
Q. 3	Page 11-15	Q. 8	Page 36-40
Q. 4	Page 16-20	Q. 9	Page 41-45
Q. 5	Page 21-25	Q. 10	Page 46-50

1. a) Define Total Quality Management (TQM). Write its broad components and its importance in clinical biochemistry lab. [3]

b) Explain metrological traceability of measurement of results. [4]

c) List three post analytical errors that occurs in clinical biochemistry tests. [3]

Question Number : 2 Question Id : 32718730415 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Explain Michaelis Menton kinetics with suitable diagram. [4]

b) How is catalytic efficiency of an enzyme measured? What does it signify? [1+2]

c) Describe the kinetics of allosteric enzymes with an appropriate example. [3]

Question Number : 3 Question Id : 32718730416 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Explain the role of G proteins as signal transduction molecule. [5]

b) List two diseases mediated by altered signalling through heterotrimeric G protein(s). [2]

c) Explain the biochemical basis of any one of the above-mentioned diseases in detail. [3]

Question Number : 4 Question Id : 32718730417 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Systematic errors. [2.5]

b) Pearson correlation analysis. [2.5]

c) Bland Altman plot. [2.5]

d) One way ANOVA test. [2.5]

Question Number : 5 Question Id : 32718730418 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Write the basic principle and broad steps of various immunological methods to purify and quantitate protein from the crude extract. [10]

Question Number : 6 Question Id : 32718730419 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Explain why the activity of carbonic anhydrase measured from plasma collected in an EDTA vial is lower than that of serum of the same person collected in a plain vial? [2.5]

b) How does the change in pCO_2 influence oxygen affinity of haemoglobin A? [2.5]

c) Explain why transmembrane domain of proteins remain in α-helical form? [2.5]

d) Why RNA is steadily hydrolysed by alkali whereas DNA is not? [2.5]

Question Number : 7 Question Id : 32718730420 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Enumerate various pre analytical errors. What measures can lab adopt to control these errors? [3+2]

b) Explain the role of Six sigma metrics to improve the quality of lab work. [3]

c) What is the recommended order of draw for multiple specimen collection with tube color identification? [2]

Question Number : 8 Question Id : 32718730421 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Discuss the various isoenzymes of Alkaline Phosphatase and their clinical significance. What are the techniques available for separation and quantification of isoenzymes of Alkaline Phosphatase? [5+5]

Question Number : 9 Question Id : 32718730422 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Write the latest diagnostic criteria of diabetes mellitus as prescribed by WHO. Write the strength

and weakness of this dianostic criteria. Discuss the role of clinical biochemistry laboratory in short and long term monitoring of patients with diabetes mellitus. [3+3+4]

Question Number : 10 Question Id : 32718730423 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Define anion gap and discuss its clinical importance. State the formula(s) for calculating anion gap. List three causes of high anion gap with metabolic acidosis and two causes of normal anion gap metabolic acidosis. [3+2+5]