National Board of Examinations

Question Paper Name :	DNB Biochemistry Paper1
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DNB Biochemistry Paper1

Group Number :	1
Group Id :	327187622
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 :	327187625
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 :	327187629
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718720742 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 inborn-errors of metabolism. Write the diagnostic criteria of Phenylketonuria. [1+4]
b) Write the laboratory approach for screening and confirmation of diagnosis of a case with positive ninhydrine test of his urine sample. [5]

Question Number : 2 Question Id : 32718720743 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 about the in-silico testings in analysis of interaction of a protein with a drug. Describe the role of Bioinformatics in analysis of transcriptome sequencing by Next Gen Sequencer (NGS). [5+5]

Question Number : 3 Question Id : 32718720744 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) Types of descriptive studies and their purposes. [4]

b) Informed consent for a randomized control trial. [2]

c) Types of plagiarism. [4]

Question Number : 4 Question Id : 32718720745 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Enumerate different techniques being used for purification of protein of interest from a complex mixture. Explain principle of protein purification by size-exclusion chromatography. [4+6]

Question Number : 5 Question Id : 32718720746 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) Describe important elements of Quality assurance program in Clinical laboratory. [5]

b) Write the purpose of enrolling in External quality assurance services (EQAS) even after implementation of a strict internal quality program? How is EQAS result interpreted? [2+3]

Question Number : 6 Question Id : 32718720747 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

List any six tests performed in clinical laboratories to assess thyroid function. Describe in detail the laboratory approach to be followed for a middle-age woman being suspected of hypothyroidism. How can the site (hypothalmus/pituitary/thyroid gland) of defect for hypothyroidism be detected by using these test results? [3+5+2]

Question Number : 7 Question Id : 32718720748 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) Define different types of enzyme inhibitions and depict the changes in enzyme kinetics for each type of enzyme inhibitor with the hepl of labelled Lineweaver-Burk plot(s). [5]
b) Discuss role of covalent bond modifications in regulation of enzyme activity with two suitable examples. [5]

Question Number : 8 Question Id : 32718720749 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) List any five pre analytical errors that occurs while conducting clinical biochemistry tests and suggest measures to control them. [5]
b) Six sigma metrics as quality control tools. [5]

Question Number : 9 Question Id : 32718720750 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Explain the biochemical basis of development of:
a) hemolysis but not neuropathy in persons having deficiency of pyruvate kinase. [4]
b) megaloblastic anaemia and sub-acute combined degeneration of spinal cord in vitamin B12 deficiency. [4]
c) impaired cell-mediated and humoral immune response in Adenosine Deaminase (ADA) deficiency. [2]

Question Number : 10 Question Id : 32718720751 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) List four functions of kidney. List the laboratory tests that are performed to evaluate these functions. [2+2]

b) Write the clinical indications of performing these tests. Write advantages and disadvantages of estimated Glomerular Filtration Rate (eGFR). [4+2]