



ND-2006000101030002 Seat No. _____

First Year M. B. B. S. Examination

December - 2021

Biochemistry : Paper - II

(New CBME Pattern)

Time : Hours]

[Total Marks : 80

Instructions : (1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉપર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book. Name of the Examination : First Year M. B. B. S. Name of the Subject : Biochemistry : Paper - II Subject Code No. : 2 0 0 6 0 0 0 1 0 1 0 3 0 0 0 2 Section No. (1, 2,): Nil		Seat No. : <table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <div style="border: 1px solid black; border-radius: 10px; height: 80px; width: 100%; display: flex; align-items: center; justify-content: center;"> Student's Signature </div>						

2. Use blue/black ball point pen only.
3. The numbers to the right indicates full marks.
4. Draw diagrams wherever necessary

Section B:

(40 Marks)

2: Long Answer Questions (ANY TWO)

(2 x 10 = 20)

- a) Describe mutations. Explain various types of DNA repair processes with suitable diagram (4+6=10).
- b) How phenylalanine is converted to tyrosine? Describe biologically important substances synthesized from tyrosine. Describe phenylketonuria in detail (2+5+3=10)
- c) Describe coenzymes and isoenzymes. Write diagnostic and therapeutic applications of enzymes (2+2+4+2=10).

3: Write Brief Answer / Justifications / Biochemical basis (ANY TEN) (10 x 2 = 20).

- a) Restriction endonuclease.
- b) Nutritional classification of amino acids.
- c) Vitamin D is a pro-hormone, explain.
- d) Telomerase is essential for dividing cells.
- e) IUB classification of enzymes with one example each.
- f) Lead poisoning causes anemia.

ND-2006000101030002]

1

[Contd...

- g) Ammonia is toxic to brain.
- h) Phenylalanine has sparing action on tyrosine
- i) Glycine is a neurotransmitter
- j) Inhibitors of protein synthesis and their action.
- k) Brown adipose tissue keeps body warm.

Section C:**(40 Marks)****4: Short answer questions (ANY FOUR)****(4 x 5 = 20)**

- a) Describe the polymerase chain reaction with its applications.
- b) Describe salvage pathway of purine nucleotide synthesis with associated disorders.
- c) What is the clinical significance of 2, 3 -BPG? Add a note on effect of 2, 3-BPG on oxygen dissociation curve.
- d) Metabolism and biochemical functions of vitamin D.
- e) Biologically important peptides.

5: Clinical Cases (ALL COMPULSORY)**(2 x 10 = 20)****Case 1:**

A newborn baby was brought with yellowish discoloration of skin and conjunctiva 5 days after birth. Serum unconjugated bilirubin was high. Treatment with phototherapy and oral phenobarbitone was started.

- a) What is the diagnosis and cause of the above condition?
- b) What is basis of phototherapy in treatment of this disorder?
- c) What is basis of phenobarbitone in treatment of this disorder?
- d) What are serious consequences, if treatment is delayed in this patient?
- e) Write Normal range of serum total, conjugated and unconjugated bilirubin?

Case 2:

43-year-old male working in a shipping company visited Dental OPD with complain of bleeding gums and hemorrhagic patches on the skin. He was taking frozen food throughout his sailing time. The dentist diagnosed him as a case of scurvy.

- a) Write any four sources of vitamin C.
- b) Name the enzymes requires vitamin C as co-factor.
- c) Vitamin C deficiency may be associated with iron deficiency, explain.
- d) Human cannot synthesis vitamin C, justify.
- e) RDA of vitamin-C.