TIME : 3 Hrs

Note: Attempt all questions. Answer Part- I and Part - II in separate answer books. All par
nswered togethe

PART – I PAPER CC

1.1 Long Answer Question

A 45-year-old man presents to medicine OPD with morbid obesity for routine check-up. He ischaemic heart disease. The consulting doctor ordered various blood tests including lipid p

a) Describe different types of lipoprotein
b) Why is HDL called good cholesterol
c) Discuss role of LDL in atherosclerosi

1.2 Short Notes Questions (within 500 words)

a) Describe allosteric regulation of enzyme
b) Describe the process of gluconeogenesis and its regulatio
c) Describe metabolic adaptations during starvatio

1.3 Short Answer Questior (within 100 words)

a) Briefly describe the chemiosmotic theory of ATP generatio
b) Explain importance of glycemic inde
c) Briefly describe Cytochrome P450.
d) Why creatinine is a better marker of renal function than urea.
e) Antioxidants

1.4 Multiple Choice Questions

1 *Co-factor required for optimal action of Xanthine oxidase is:*
a) Zinc
b) Cobalt
c) Molybdenum
d) Manganese

2 *To which class of enzyme belong:*
a) Hydrolase
b) Isomerase
c) Ligase
d) Oxidoreductase

3 *The average daily nutrient level estimated to fulfill the requirement of 97-98% individuals of a particular age, and life stage is known as:*
a) Estimated Average requirement
b) Recommended Dietary Allowance
c) Adequate Intake
d) Tolerable upper intake level

4 *Glucose uptake by:*
a) brain cells is through ener
b) intestinal mucosal cells r
c) liver cells is through facil glucose transporter.
d) most cells is through simp concentration gradient.

5 *Which of the following statements about vitamin C is correct? Vitamin C is:*
a) a competitor of iron absorption in the intestine.
b) a fat-soluble vitamin stored in adipose tissue.
c) a coenzyme in several enzymic reactions such as the hydroxylation of proline.
d) a coenzyme in several enzymic reactions such as the carboxylation of glutamate

6 *Which one of the follow to be seen in a patient w diabetes mellitus?*
a) Blood pH of 7.4
b) Positive test for protein
c) Hemoglobin A1c value
d) Negative test result for

7 *Which of the following is a rich source of trans fatty acids?*
a) Peanut oil
b) Red Meat

8 *Allosteric inhibition :*
a) Makes active site unfit
b) Controls excess formati
c) Both (A) and (B)
d) None of these

...ed Question (5 + 5 + 5 = 15 Marks)

...year old child belonging to a very poor socio-economic status was brought to the OPD by her mother who ...mplained her child suffered from frequent fractures and bone deformities. On examination, the child had bowing of ...e lower extremities. Biochemical Investigations revealed very low serum levels of Vitamin D, phosphorous, and ...bnormal levels of calcium.

- What is your provisional diagnosis?
-) Explain the metabolism of Vitamin D using flowchar
-) Describe the daily requirement and dietary sources rich in vitamin D

...hort Notes Questions (within 500 words) (3x 5= 15 Marks)

a) Explain the action of hormones via calcium and phosphatidylinositide
b) Which enzyme assays will you in a patient suspected of myocardial infarction? Explain with their timeline.
c) Why diabetic patients develop cataracts at younger age?

...hort Answer Questions (within 100 words) (5x 2 = 10 Marks)

a) What is the significance of NADPH in metabolism?
b) Why is enolase used while collecting blood sample for glucose estimation?
c) Describe briefly phase 1 reactions of xenobiotic metabolism
d) Enumerate micro and macrovascular complications of Diabetes Mellitus
e) Explain the significance of estimating Body Mass Index

Multiple Choice Questions (10 x 1 = 10 Marks)

Malate shuttle is necessary for: Gluconeogenesis ATP generation Providing NADPH Glycogenolysis	2 *The lipoprotein with fastest electrophoretic mobility and lowest triglyceride content is:* a) VLDL b) IDL c) LDL d) HDL
Chylomicrons are formed within: Intestinal lumen Enterocytes Adipocytes Lymphatic vessels	4 *Under starvation, enzyme which inhibited is:* a) Glucose 6 phosphatase b) Alanine transaminase c) Glucokinase d) Pyruvate carboxylase
In which of the following tissues / Cells glucose uptake is insulin dependent? Adipose Brain Liver RBC's	6 *Alpha-linolenic acid is* a) Omega-3 fatty acid b) Omega-6 fatty acid c) Saturated fatty acid d) Trans Fatty acid
A man complains of diarrhea with dairy products. He must avoid all except- Condensed Milk Skimmed Milk Yogurt Icecream	8 *Hyalouronic acid is seen in:* a) Synovial fluid b) Cornea c) Cartilage d) blood
Von Gierkes disease is characteristics by the deficiency of: Glucose 6 phosphatase Glucose 6 phospatase dehydrogenase Phosphorylase HMG co-A reductase	10 **Impaired glucose tolerance can occur with deficiency of :** a) Copper b) Zinc c) Chromium d) Fluorine