SURAT MUNICIPAL INSTITUTE OF MEDICAL EDUCATION & RESEARCH, SURAT

First MBSS (Repeaters Batch), PRELIMINARY EXAMINATION, DECEMBER 2016

BIOCHEMISTRY: Paper-1

Date: 05-12-2016; Time: 2 Hours, 30 Minutes (10.00 am -12.30 pm) [Total Marks: 50]

Note: Figures to the right indicates full marks

 Draw diagrams and flow charts where appropriate.

 Answers should be legible and to the point.

**Start New Question on separate page. Write Question and Sub-question No distinctly.**

SECTION-1

**Q.1. Short Notes: (2 out of 3) 08**

(a). Write classification and functions of phospholipids.

(b). Describe the sources, biochemical functions and disorders of magnesium metabolism.

(c). What is gluconeogenesis? Describe the various substrates for gluconeogenesis.

**Q.2. Short Notes (4 out of 6) 12**

(a). Classification and examples of lipid.

(b). Complications of diabetes mellitus.

(c). Glycoseaminoglycans.

(d). Liver function tests

(e). Structure and composition of cell membrane.

(f). Lactose intolerance.

Q**.3. Answer in one or two lines (5 out of 6) 05**

(a). Brain cannot utilise fatty acid for energy purpose.

(b). Functions of HDL cholesterol

(c). What is effect of Cyanide poisoning on ETC?

(d). Why there is oedema in protein malnutrition?

(e). Blood is collected in fluoride bulb for estimation of blood glucose level.

(f). Examples of ketone bodies and functions (any two).

SECTION-2

**Q.4. Read the following case and answers the questions: 10**

A 40 year old woman visited OPD of SMIMER Hospital for excessive menstrual bleeding. She complained of lethargy, giddiness, excessive tiredness and breathlessness on walking. Since past few months her physical performance had significantly decreased. She was pure vegetarian. Based on clinical history and blood reports, diagnosis of iron deficiency anaemia was made and treatment started with ferrous sulphate and vitamin C.

1. What are the dietary sources of iron? Give daily requirements of iron (RDA) for adults.

2. What are the causes of iron deficiency anaemia?

3. Why vitamin C is given in this patient? Explain the role of vitamin C in Iron Metabolism.

4. Why iron metabolism is called as one way metabolism?

5. What is the biochemical role (functions) of Iron. Give two examples of iron containing enzymes.

**Q.5. Write justification 5 out of 7) 10**

(a). Sucrose is non-reducing sugar.

(b). Hyaluronidase is called as spreading factor.

(c). Hemolysis may be caused due to non-functioning of HMP shunt pathway.

(d). TCA cycle is the final common oxidative pathway

(e). Urine is acidic at physiological condition.

 (f). Aspirin is used as anti-inflammatory drug.

(g). Lipids are preferred storage form of energy in animals compared to carbohydrates and proteins.

**Q.6. Answer in one or two lines** (**5 out of 6) 05**

(a). Functions of prostaglandins

(b). Functions of Copper (two)

(c). Essential fatty acids -examples.

(d). Significance of glycogen

(e). Physiologically important glycosides (any two with functions).

(f). Metabolic acidosis.

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