

03158

**MASTER OF SCIENCE (DIETETICS AND
FOOD SERVICE MANAGEMENT)**

Term-End Examination

June, 2010

MFN-004 : ADVANCE NUTRITION

Time : 3 hours

Maximum Marks : 100

Note : Attempt five questions in all. Question No. 1 is compulsory.

1. (a) Fill in the blanks : 10

- (i) Recommended dietary intake is equal to the estimated average intake plus _____ SD requirement.
- (ii) Basal metabolic rate represents _____ percent of the total daily energy expenditure.
- (iii) Dietary _____ is the edible part of plants or analogous carbohydrates that are resistant to digestion and absorption in the human small intestine.

- (iv) For infants, children, adolescent and pregnant woman, diet with an NDP cal % of _____ % would be adequate to maintain growth.
- (v) _____ can be lengthened and dehydrogenated to compounds like Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).
- (vi) _____ is the predominant electrolyte in the extracellular fluid and _____ in the intracellular fluid.
- (vii) _____ is converted to vitamin A in the body and is called provitamin A.
- (viii) RDA for thiamine as recommended by ICMR for adults is _____ mg/1000 k cal.
- (ix) The ICMR recommended intakes for iron are based on iron absorption of _____ % in adult men, adolescent boys and _____ % in women, adolescent girls.
- (x) Dental fluorosis is characterized by browning and pitting of teeth is known as _____ .

- (b) Explain the following in 2 - 3 sentences each only : 10
- (i) Polyphenols
 - (ii) Lactogenesis
 - (iii) Ergogenic Aids
 - (iv) Calcium homeostasis
 - (v) Chemical score
2. (a) Explain briefly how the physical activity influences the energy expenditure and requirement for adults. 7
- (b) What do you understand by the term "Chronic Energy Deficiency". Briefly discuss the consequences of chronic energy deficiency and indicate the classification you would use to assess chronic energy deficiency and underweight among adults. 8
- (c) Briefly describe the potential health benefits of dietary fibre. 5
3. (a) What measures would you recommend to a vegetarian for improving the quality of protein in their diets ? Explain, giving examples. 6
- (b) What are essential fatty acids ? What are the recommendations put forth by ICMR for choosing cooking oil ? 6
- (c) Why is it essential to maintain water balance in the body ? Briefly explain the regulation of water balance in our body. 8

4. (a) Describe the role of vitamin E in the protection of poly unsaturated fatty acids from oxidative damage. 6
- (b) Explain the biological role of vitamin K in the formation of blood clot. 6
- (c) Briefly explain the functions of the following water - soluble vitamins in our body : 4+4
- (i) Folate (ii) Vitamin C
5. (a) List the ICMR recommendations for daily iron intake for Indians. (Adult man, woman, pregnant/lactating woman and children, adolescent) what factors determine the iron bioavailability/absorption from the diet. Discuss briefly. 4+6
- (b) What are functional foods ? Discuss the potential health implications of functional foods briefly. 2+8
6. (a) Briefly describe the effect of maternal malnutrition on. 6+4
- (i) Foetal outcome
- (ii) Lactation performance
- (b) Which nutrients are of particular importance during infancy and preschool years. List the RDA for various nutrients for children as recommended by ICMR. 6+4

7. (a) What is the relevance of pre - event meal in sports nutrition ? What points would you keep in mind while planning the pre - event meal for an athlete ? **2+6**
- (b) What nutrient requirement and food intake pattern would you recommend for : **4+4+4**
- (i) People living in high altitudes
- (ii) People in extreme hot conditions
- (iii) Astronauts involved in space mission
8. Write short notes on **any four** of the following : **5+5+5+5**
- (a) Gene expression - The process
- (b) Nutrient needs and Recommended dietary intakes for Indian adolescent
- (c) Dietary modifications in the diet of the elderly
- (d) Physiological role of zinc in our body
- (e) Calcium requirements and factors affecting calcium absorption during pregnancy

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