

2015

M.Sc.

3rd Semester Examination

CLINICAL NUTRITION & DIETETICS

PAPER—CND-303

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Q. No. 1 and any three of from the rest.

1. Answer any ten questions of the following: 10×1

- (a) Insulin injection in diabetic patient results correction in blood sugar by —
- (i) stimulating β -Cell ;
 - (ii) sensitizing insulin receptor ;
 - (iii) increasing the number of insulin receptor ;
 - (iv) protecting degradation of insulin receptor.

(Turn Over)

- (b) Diabetes is associated with oxidative stress which is due to —
- (i) elevation in lipid level in blood ;
 - (ii) elevation in glucose level in blood ;
 - (iii) elevation in glycated haemoglobin level in blood ;
 - (iv) elevation in cholesterol level in blood.
- (c) Vegetables are included of high level in the diet of diabetic patient because it help—
- (i) blood glucose management by regulating glucose absorption and by elevating anti-oxidative states ;
 - (ii) blood lipid management by regulating the supply of low fat in diet ;
 - (iii) polyphagea management by controlling food intake ;
 - (iv) electrolyte management by supplying essential electrolytes.
- (d) First class protein is preferred in the diet of diabetic patient due to its —
- (i) stimulating activity on β cell ;
 - (ii) high anabolic activity ;
 - (iii) high energy production activity ;
 - (iv) high lipid regulating activity.

- (e) Foam cell, which is associated with atherosclerosis is —
- (i) modified endothelial cell of blood vessel ;
 - (ii) modified monocyte loaded with LDL ;
 - (iii) modified macrophage loaded with LDL ;
 - (iv) modified lymphocyte loaded with LDL.
- (f) Intravascular clotting and extravascular clotting are noted in —
- (i) atherosclerosis ;
 - (ii) arteriosclerosis ;
 - (iii) atherosclerosis and arteriosclerosis respectively ;
 - (iv) arteriosclerosis and atherosclerosis respectively.
- (g) Stress related constipation is noted due to —
- (i) elevation in blood epinephrine associated with low G.I. motility ;
 - (ii) elevation in blood acetylcholine associated with intestinal water absorption ;
 - (iii) elevation in growth hormone associated with indigestion ;
 - (iv) elevation in local hormones in G. I. tract which results low rate of food digestion.

- (h) Hyperlipidaemia is associated with diabetes due to —
- (i) low insulin that limits the lipolytic activity ;
 - (ii) low insulin that elevates lipogenic activity ;
 - (iii) low insulin that limits fat synthesis from carbohydrate ;
 - (iv) low insulin that limits fat synthesis from protein.
- (i) Tea intake just after major meal results nutritional anaemia due to :
- (i) alkaloids present in tea present reduction of iron absorption in G. I. tract ;
 - (ii) alkaloids present in tea results precipitation of iron in G. I. tract by chelation ;
 - (iii) alkaloids present in tea prevent iron transportation through epithelial cells of G. I. tract ;
 - (iv) alkaloids present in tea prevent iron released from 'bound state' present in food.
- (j) Nutraceuticals have same corrective activity on cancer due to their :
- (i) cell cycle regulating activities ;
 - (ii) controlling effect on oncogene ;
 - (iii) controlling effect on apoptozin ;
 - (iv) controlling effect on apoptosis and oncogene.

- (k) What is leukemia ?
- (l) Name any one Vitamin and mineral responsible for nutritional anemia.
- (m) State any two pathophysiological symptoms of nutritional anemia.
- (n) What is allergen ?
- (o) What is meant anaphylactic shock ?
2. (a) "Wheat made bread is preferred over rice in the meal of diabetic patient" — justify the statement critically.
- (b) Write the principle of time of meal intake and type of insulin given to the diabetic patient for blood glucose management.
- (c) State the significance for the inclusion of PUFA and MUFA in diabetic diet. 3+4+3
3. (a) State the intracellular role of vitamin E as antioxidant.
- (b) Intracellular antioxidative potency of vitamin E is greater than vitamin C' — justify the statement.
- (c) State why LDL is associated with atherosclerosis. 4+3+3

4. (a) Discuss the types of food style associated with constipation ?
- (b) Why constipation is noted in aged persons in general ?
- (c) Write oritically on 'prognancy induced constipation.
- 4+3+3
5. (a) What do you mean by carcinoma and sarcoma ?
- (b) State the different phases of cancer.
- (c) What are the different causes of cancer ?
- (d) State dietary antioxidants prevent cancer ?
- $(1+1)+3+2\frac{1}{2}+2\frac{1}{2}$
6. (a) Make a comparative statement of food allergens in children and adults. 4
- (b) Discuss the mechanism of type-I hypersensitivity in response to food allergy. 6
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