

Section I:

Q1. The important nutrients required by all living organisms are:

- Fats (Lipids) 0.5
- Proteins 0.5
- Minerals 0.5
- Carbohydrates 0.5
- Water 0.5
- Vitamins 0.5

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Q2. The health effect of:

- a) Fiber:
- To prevent constipation 1
 - To facilitate digestion 1
 - To help in reducing fat absorption 1
 - To help in waste excretion 1
 - To reduce cholesterol. When taken in excess, it causes diarrhea.
 - When taken in excess, it causes poor absorption of other nutrients.

- b) Cholesterol:
- production of Sterols 1
 - Maintain body heat 1
 - Build body cells
 - formation of testosterone and progesterone

- promote reproduction
- promote growth
- When taken in excess it causes hypertension, obesity, heart diseases, cancer, arthritis, nervous troubles.
- Bile production
- Hormone production
- Vitamin D production

Q3. It is very important to eat fruits and vegetables at each ~~fruits~~ meal and for various reasons:

- They facilitate digestion 1
- They are anti-oxidant 1
- They increase - Vitamins 1
- Minerals 1
- carbohydrates
- water

- They increase blood in human body

- They protect and regulate the body

- They prevent the body against diseases.

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Q4. Troubles caused by too much consumption of fats are:

- Obesity 1
- Heart disease 1
- Diabetes 1
- High blood pressure
- Liver troubles

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- poor digestion
- respiratory troubles
- cancer

Q5. Factors influencing PCM (Protein energy malnutrition) are

- 1. Ignorance about good nutrition
- 1. Lack of proteins
- 1. poverty
- 1. poor family planning
- 1. Foods taboos
- frequent infections
- poor absorption of nutrients
- Precocious weaning
- Avarice / greed
- No concern and no love of parents for their baby
- Natural disasters

Q6. The two broad categories of vitamins are the following:

- 1. water soluble vitamins! they are vitamins which are soluble in water: B, C, 0.5
- 1. liposoluble vitamins! are vitamins which are soluble in lipids: A, D, E, K, 0.5

Q7. The difference between organic and non-organic nutrients is that:

- organic nutrients: are those contain¹ing carbon

- Eg: - Carbohydrates 0,5
- proteins
- fats (lipids)

- Non-organic nutrients are those which do not contain¹ carbon

- Eg: - Minerals 0,5
- water
- vitamins

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Q8. Food hygiene is important in hotel industry because of following reasons:

- 1 To prevent cross contamination
- 1 To prevent food poisoning
- 1 To prevent food spoilage
- To attract and retain customers
- To maintain good health of customers and staff
- To satisfy contamination of food
- To prolong food shelf life
- To prevent bacteria
- To prevent pests
- To prevent diseases
- To prevent waste
- To minimize cost

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Q13: Salmonella.

Mode of contamination	Disease	Symptoms
1 Consuming contaminated food	1 Typhoid fever	1 Fever
1 Drinking contaminated drink		1 Headache
Use of uncleaned materials	Salmonella sp.	- Abdominal pain
Handling food		- Diarrhea
1 Wearing without washing hands		- Nausea - Constipation

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Q14: Explanation of!

a) Salting: Is a method of preservation of food by using salt

b) Pickling: Is preservation method by using vinegar

c) Jamming: Is a preservation method by using sugar

d) sterilization: preservation method of food by using high temperature within 15 minutes.

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SECTION II

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Q15. The main steps of digestion:

1 Transformation of big particles into small particles, this done by mastication of food in the mouth and churning or chewing in the stomach.

2 Absorption and assimilation: the absorptions done by separating nutrients from waste products. The assimilation is done when nutrients are carried into the body cells by blood.

3 EXCRETION: It is the removal of waste products from the body through defecation and urination.

Q16. Diseases caused by obesity are the following:

1 Diabetes

1 Heart diseases

1 High blood pressure

1 Nervous system problems

1 Liver problems

1 Respiratory problems

1 Cancer.

b) Nutritional advice to prevent obesity:

- 1 Eat up food containing fibers
- 1 Avoid excess consumption of fat
- 1 performing physical exercises
- 1 consuming enough fruits
- Drinking " " vegetable water
- Avoid consumption of excess sugar
- " " of excess red meat
- Take boiled egg, salad, meat poor in fat
- Avoid feculent, pastries and soft drinks

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c) Recommendation to a person with fever:

- 1 Drinking plenty water
- 1 Taking soups and sauces
- Hydrates and lactates diet
- Drinking juices
- Many small meals

It is recommended because fever cause dehydration (loss of water in the body)

Q17. a) Sources of vitamin D:

- 0.5 - sunlight
- 0.5 - Red & yellow fruits like mangoes (papayas, red

apples, tomatoes.

3.5 Egg yolk

Milk and milk products,

- Cod liver oil

* Functions of vitamin D within the body:

- 1 Solidification of bones
- prevention of ricket, osteomalacia
- rachitism, osteoporose,
- 1 facilitate calcium absorption.

* Consequences of deficiency in vitamin D:

- Ricket
- osteomalacia
- osteoporose
- 1 rachitism
- softness of bones
- 1 Bad absorption of calcium

b) Functions of fat in the body:

- 1 Brain development
- 1 providing energy
- 1 increasing body heat
- 1 protecting some organs against shocks
- Facilitating the absorption of liposoluble vitamins (A, D, E, K)
- Helps protein & carbohydrates to work effectively
- Reserve of energy,

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Q18. a) The functions of water in the body:

- prevent dehydration
- carry other nutrients within the body
- facilitate digestion
- facilitate waste excretion
- Dissolve nutrients / solvent
- Body temperature regulation
- catalyse many reactions within the body.
- To maintain the structure of large molecules
- Participate in metabolic reaction
- Maintain body volume

b) Health troubles caused by deficiency in calcium & characteristics

Troubles	Characteristics
* Hypocalcaemia	- Growth retardation - Cramps - Numbness - Vomiting - Weakness - Confusion - Hallucination - Memory loss
* Teeth decay	teeth cavities
* Hemorrhoid	prolonged clotting time of blood
* Osteomalacia	Bones softness

19. a) Roles of Vitamin E in the body

- It is anti-oxidant
- prevent infections
- promote reproduction
- prevent reproduction troubles
- production of progesterone and testosterone
- prevent sterility
- prevent impotency
- prevent frigidity
- To prevent deficiency in pregnancy period (Premature infants...)

* Sources of Vitamin E - Cereals/Seeds

- Lemon
- Onions
- Green pepper
- Nuts
- Ground nuts
- Soy beans
- Cereals in germination
- Egg yolk
- Sunflower seeds
- Palm oil

b) Nutrients found in Onions Roles:

* Carbohydrates	provide energy increase body heat
* Vitamin A	Normal vision Strengthen immune system
* Vitamin E	prevent sterility Promote reproduction facilitate digestion
* Water	prevent dehydration production of red blood cells.
* IRON	Prevent anaemia
Vit C	Prevent scurvy Increase immunity Prevent haemorrhage

Prevent skin troubles

Prevent cancer growth

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SECTION III

No. Organs	Mechanical role	Chemical role
a) Mouth and its Components	crushing by teeth forming by particles into small particles the tongue mixes food with saliva and facilitate swallowing of food	Salivary glands produce saliva that contain some enzymes that dissolve food.
b) Stomach	churning or breaking	acid production and enzymes production HCl, gastric acid, pepsin, protease, pepsin

* Def. a) Low sodium diet is a diet that contain low or no salt

* Recommendation of low sodium diet:

- A depends what. consume vegetables
- A Low sodium diet is recommended to people with obesity
- A people with liver problems
- " " kidney diseases
- " " high blood pressure
- " " oedema
- " " heart disease.

Forms of Vegetarianism:

- 1) Vegans: who consume vegetables only
- 2) Lacto-ovo vegetarians: who consume milk, eggs, and vegetables
- 3) Fructarians: who consume fruits
- 4) Ovo-vegetarians: who consume eggs and vegetables
- 5) Lacto-vegetarians: who consume milk and vegetables
- 6) Semi-vegetarian: takes vegetables & meat except red meat

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Q2. Groups of food and their functions within the body:

- 1) Energetic ^{carbohydrate} food: food which provide energy, rich in carbohydrates, fats
- 2) Body building ^{protein} foods (Constructive food): food which construct the body, rich in proteins, water and minerals
- 3) Protective ^{regulating} food: food that protect

The body from diseases, rich in vitamins, water and minerals,
eg, fruits, vegetables.

Other groups of foods

- Meat and meat products: building food
- Milk & milk products: building food
- Fruits: protect the body
- Cereals & grains: provide energy to the body
- Vegetables & legumes: protect the body

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20. (Cont'd)

G - The protein **DRAFT** digestion and absorption

- Digestion of protein starts in the mouth by crushing big particles of food containing proteins and mixing food with saliva to make it easy to ~~be~~ swallowed.

- When food is swallowed it joins enzymes in the stomach such as pepsin, peptidase that further break down proteins into polypeptide and amino acids.

- Proteins is absorbed in small intestine as amino acids 1.