

ROYAL CIVIL SERVICE COMMISSION
CIVIL SERVICE COMMON EXAMINATION (CSCE) 2010
EXAMINATION CATEGORY: TECHNICAL

PAPER III: SUBJECT SPECILIZATION PAPER FOR FOOD AND NUTRITION

DATE : 24th NOVEMBER 2010
TOTAL MARKS : 100
EXAMINATION TIME : 2.5 HOURS
READING TIME : MINIMUM 15 MINUTES (PRIOR TO EXAM TIME)

INSTRUCTIONS

1. Write your Roll Number clearly on the answer booklet in the space provided.
2. The first 15 minutes is being provided to check the number of pages, printing errors, clarify doubts and to read the instructions. You are not permitted to write during this time.
3. Use either Blue or Black ink for the written part.
4. All answers should be written on the Answer Booklet provided. Candidates are not allowed to write anything on the question paper.
5. This Question Booklet consists of 10 pages. It is divided into two sections. Section A (50 marks) and section B (50 marks).
6. **Section A** consists of two parts, **Part I and Part II.**
 - **Part I** consists of 30 multiple choice questions carrying one (1) mark each and is compulsory.
 - **Part II** consists of four (4) short answer questions of five (5) marks each and all questions are compulsory.
7. **Section B** has two questions out of which you are required to do only **ONE** question (50 marks).

Section A. Part I: Multiple Choices: Please circle the correct answer.

1. Tick the odd one:-
 - a. Sucrose
 - b. Lactose
 - c. Glucose
 - d. Maltose

2. Absorption is maximum in the small intestine because of _____.
 - a. the presence of villi
 - b. its length
 - c. its thin walls
 - d. all the above

3. Bile juice is _____.
 - a. alkaline
 - b. acidic
 - c. neutral
 - d. near acidic

4. The enzyme that is secreted in an inactive form is _____.
 - a. lipase
 - b. trypsin
 - c. rennin
 - d. Ptyalin

5. Photosynthesis is _____.
 - a. a catabolic reaction
 - b. an anabolic reaction
 - c. an energy releasing reaction
 - d. none of the above

6. The part of the digestive system where no digestion takes place is _____.
 - a. mouth
 - b. oesophagus
 - c. ileum
 - d. stomach

7. _____ is the body's primary source of energy
- Fructose
 - Glycogen
 - Glucose
 - Galactose
8. Salivary gland secretes ptyalin which acts on:
- Protein
 - Starch
 - Fat
9. If a product is said to be "Sugar Free" it contains how much sugar?
- none.
 - less than 0.5 grams of sugar per serving.
 - no more than 40 kcal per serving.
 - less than 10.0 grams.
10. Ministry of Health conducted Anthropometric Survey in children under five years of age in 2009. Stunting prevalence was found to be 37% while the underweight prevalence was:
- 11%
 - 37%
 - 40%
 - 56%
11. A person is said to be overweight if his/her Body Mass Index (BMI) is above:-
- 18 kg/m²
 - 25 kg/m²
 - 30 kg/m²
12. World Health Organization recommends exclusive breastfeeding for a duration of:
- Four to six months
 - Six months
 - Four months
13. Another name for Vitamin- C is
- Ascorbic Acid
 - Niacin
 - Riboflavin
14. Beriberi is a deficiency of which vitamin:
- Vitamin C
 - Vitamin B1
 - Vitamin B12

15. One gram of carbohydrate is equal to..... of energy.
- 3 kcals
 - 4 kcals
 - 6 kcals
16. Drinking tea is to be avoided after an oral administration of:-
- Iron tablets
 - Calcium tablets
 - Vitamin A capsule
17. Bhutan was the first country in the south east Asia region to have achieved
- Iron deficiency Anemia
 - Folate deficiency
 - Sustainable elimination of iodine deficiency disorders
18. During the regular growth monitoring programme in a health centre, which of the following indicator is used to monitor the child's nutritional well being
- Height for age
 - Weight for age
 - Height for weight
19. Clinical signs for Iodine deficiency disorders is:
- Urinary iodine content
 - Iodine content in salt at household level
 - Goiter
20. World Health Organization defines low birth weight as a child with less than:
- Less than 1000 grams at birth
 - Less than 1500grams at birth
 - Less than 2500grams at birth
21. Main dietary cause of high blood cholesterol level is
- Saturated fat
 - Unsaturated fat
 - Poly saturated fat
22. Amino Acids are organic compounds and lack of even 1 of theessential amino acids has serious health implications and can result in degradation of the body's proteins
- 20
 - 7
 - 8

23. Liquid vegetable oils that you buy everyday like Soya and Sun flower oil contains:-
- Saturated fat
 - Unsaturated fat
 - Both
24. Eggs are one of nature's most nutritious foods. One large egg contains about 70-90 calories, 13 essential nutrients and a high quantity of high quality protein. Which part of egg is rich in protein:
- Egg white
 - Egg Yolk
25. Table sugar that you use every day to make tea is actually:
- Sucrose
 - Lactose
 - Maltose
26. Hardest substance in the body is:-
- Hip bone
 - Enamel
 - Dentine
 - Cement
27. _____ is the body's primary source of energy
- Fructose
 - Sucrose
 - Glycogen
 - Glucose
28. Total fat intake should be:-
- 45 – 65% of total calories
 - 20-35% of total calories
 - 30-45% of total calories
 - 10 – 25% of total calories
29. If the desired confidence interval is 95 percent. Then the precision should be:
- 0.05
 - 0.10
 - 0.95
30. Every day, you must have been watching CNN news channel. What does CNN stand for?
- Cable News Network
 - Commercial News Network
 - Corporation News Network
 - Channel News Network

Section A. Part II: Answer all four questions (Total 20 Marks).

1. Suppose a good friend of yours come to you for career counselling. Of the following three options, which one would you advise and why (5 marks)?
 - a. BSc (Nutrition)
 - b. BSc (Dietetics)
 - c. BSc (Home science)

2. Explain the following:

a. 24hours dietary recall (2.5 marks)

b. Recommended Daily Allowance (RDA) (2.5 marks)

3. Explain the source and importance of following nutrients? (5 marks)

a. Omega 3 fatty acids:

b. Fiber

4. Answer the following two questions briefly.
 - a. Explain the difference in the nutritional value of 100 grams of skim milk and 100 grams of whole milk?
 - b. What does UHT stand for? What are the advantages and disadvantages of UHT packaging?

SECTION B: ANSWER ONLY ONE QUESTION

Question I (50 Marks): As a graduate of nutrition you must have referenced the nutrition situation of Bhutan. In this context please answer the following five questions.

- a. What is the current prevalence of malnutrition in children under five? (10 Marks)
- b. What are the major public health nutritional problems of Bhutan? (5 Marks)
- c. What strategies are in place to address these nutritional problems? (10 Marks)
- d. Ministry of Health has a project funded by World Diabetes Foundation (WDF). Suppose you are working for MoH and posted in Mongar Regional Referral Hospital. There you are asked to develop a diet plan for the eastern diabetes patient. Present your diet plan and explain it. (25 marks)

Or

Question II (50 Marks):

- a. Anthropometric indices can be expressed in relationship to the reference population in two statistical terms, define:-
 - Standard deviation from the median
 - Percentage of median(10 marks)
- b. A little boy measures 84 cm in length and weighs 9.9 kg. (*Reference median weight for boys of 84 cm is 11.7 kg and the standard deviation for the reference distribution for boys is 0.908*). Calculate the weight-for length Z-score for this child. (20 marks)
- c. Formula used to calculate sample size for simple or systemic sampling is :

$$1.96^2 \times \frac{p \times (1-p)}{d^2} \times \text{Design Effect}$$

- Explain what “p” and “d” stand for in this formula and its significance?
- What is design effect and explain its importance?
- What are the normal expected values for ‘p’ and “d”?

(20 Marks)

"Don't stay in bed, unless you can make money in bed."