OPEN BOOK M.Sc. IN CLINICAL NUTRITION AND DIETETICS, JAN-2021

1-SEMESTER

M.Sc. CND 101: Human Physiology, Course-1

Time: 3 Hours **Max: Marks: 80**

Answer the questions from all parts following their internal choices

PART A

Answer any four of the following :- **(4x5-20)**

1. Write the functions of Bones.
2. Give the composition of Blood.
3. Mention the functions of Bile.
4. Write on role of calcium in Muscle contraction.
5. Explain the functions of pituitary hormones.
6. Write the structure of Tooth.

PART B

Answer any three of the following :- **(3x10-30)**

7. Write the composition and functions of Saliva.
8. Explain the Structure and functions of Liver.
9. Discuss on Mitosis.
10. Explain the mechanism of Respiration.
11. Explain the structure of Long Bone.

PART C

Answer any two of the following :- **(2x15-30)**

12. Explain Female Reproductive System.
13. Discuss the Formation of Urine.
14. Discuss on physiology of Earing.
15. Discuss on Clotting Mechanism.

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OPEN BOOK M.Sc. IN CLINICAL NUTRITION AND DIETETICS, JAN-2021

1-SEMESTER

M.Sc. CND 102: Principles of Biochemistry, Course-2

Time: 3 Hours **Max: Marks: 80**

Instruction: Answer the questions from all parts following their internal choices

PART A

Answer any four of the following :- **(4x5-20)**

1. Write the classification of carbohydrates.
2. Write a neat labeled diagram of a mitochondrion and explain its functions.
3. Give the occurrence and importance of starch and glycogen.
4. What is glycogenesis and glycogenolysis? Mention its importance.
5. Write on transamination reaction. Give example.
6. What are the health benefits of antioxidants?

PART B

Answer any three of the following :- **(3x10-30)**

7. Explain the structure of a typical prokaryotic cell.
8. Discuss the special properties of water.
9. Give the schematic representation of TCA cycle.
10. Explain the classification of enzymes with suitable examples.
11. Describe the structure of Watson and Crick model of DNA.

PART C

Answer any two of the following :- **(2x15-30)**

12. Explain glycolytic pathway. Add a note its regulation.
13. .Discuss the biological importance of lipids.
14. Explain the steps involved in the B-oxidation of a fatty acid.
15. Write an account of the reactions of urea cycle.

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OPEN BOOK M.Sc. IN CLINICAL NUTRITION AND DIETETICS, JAN-2021

1-SEMESTER

M.Sc. CND 103: Research Methods and Biostatistics, Course-3

Time: 3 Hours **Max: Marks: 80**

Instruction: 1. Answer the questions from all parts following their internal choices
2. Answer to the point and according to the awarded marks.
3. Scientific calculators are allowed.

PART A

Answer any four of the following :- **(4x5-20)**

1. What is a variable? Explain different types of it.
2. Write a note on role of researcher in the research.
3. Compare census survey and sample survey with their relative merits and demerits.
4. What is meant by measure of central tendency? Compute mean and standard deviation for x: 12,6,13,1,23,19,2,18,15,16,4. (1+4)
5. What is Binomial distribution /variable, give an example? The probability of observing the presence of a female child in a locality is 0.23.Ima randomly selected family of that locality, if 5 children are observed, what is the probability that none are female? (2+3)
6. Compare scientific and non-scientific research methods?

PART B

Answer any three of the following :- **(3x10-30)**

7. Explain the concept of statistical hypothesis testing and terms related to it, in detail.
8. Discuss various types of sampling and non-sampling errors.
9. Discuss the steps involved in writing and publishing research article.
10. Explain the concept of non-probability sampling with it types and examples.
11. a) What are parametric and non-parametric test? (2+8)

    b) Test whether the attributes ‘’Gender’ and ‘BP’ are independent from the following data:

		Gender	
		Male	Female
BP	High	87	16
	Low	24	36

Some critical values are x 2 (0.01.1) = 6.63,x2 (0.01.5)=15.08,

PART C

Answer any <u>two</u> of the following :- **(2x15-30)**

12. a) What is a histogram? How is it constructed? How can a set of data be tested for normality using histogram?

b) Write a note on sample size determination. (6+9)

13. a) What are paired/dependent samples? Explain paired t test?

b) Apply paired t test for the following case: (7+8)

BP before yoga	83	86	86	84	81	82	80
BP after yoga	84	83	78	73	82	85	80

Test whether yoga is effective I reducing BP. Some critical values t (0.01.6) =3.143,t(0.01,12)=2.681.

14. a) Compare correlation and regression analysis? (5+10)

b) Compute Karl Pearson's coefficient of correlation and interpret it, for the following bivariate data:

x	9	8	8	7	6	7
y	8	9	7	7	6	5

15.a) What is ANOVA? Write the procedure of ANOVA by stating model and assumptions?

b) Compare regression and ANOVA techniques. (9+6)

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OPEN BOOK M.Sc. IN CLINICAL NUTRITION AND DIETETICS, JAN-2021

1-SEMESTER

M.Sc. CND 104: Human Nutrition, Course-4

Time: 3 Hours **Max: Marks: 80**

Instruction: Answer the questions from all parts following their internal choices

PART A

Answer any <u>four</u> of the following :- **(4x5-20)**

1. Define essential fatty acids and non-essential fatty acids with examples..
2. Write the functions of thiamine.
3. What are minerals? Explain the classified with examples.
4. List the sources of water and distribution of water in body.
5. Write on Natural antioxidants.
6. Explain the effects of calcium deficiency in children and adults.

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PART B

Answer any <u>three</u> of the following :- **(3x10-30)**

7. Write the functions of Water.
8. Explain the digestion and absorption of carbohydrates.
9. Discuss on the effect of nutritional disorders on body composition.
10. List the health benefits of phytochemicals.
11. Elaborate the nutritional significance of ultra-trace elements.

PART B

Answer any <u>two</u> of the following :- **(2x15-30)**

12. Discuss : a) Zinc, b) Sodium, c) Riboflavin deficiency
13. Elaborate on classification of fats and role of triglycerides in heath and disease.
14. Discuss Vitamin C under: a) Function, b) Sources, c) Deficiency
15. Discuss any two methods of determining protein quality.

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