BNS-102

POST BASIC
BACHELOR OF SCIENCE (NURSING)
B.Sc. (N) (PB)
Term-End Examination
June, 2021

BNS-102 : APPLIED SCIENCE (BIOCHEMISTRY, BIOPHYSICS, MICROBIOLOGY, NUTRITION AND DIETETICS)

Time : 3 hours   *Maximum Marks : 70*

Instructions :

1.   Applied Science Course comprises of the following four parts :

         Part A : Biochemistry   – 18 marks

         Part B : Biophysics   – 16 marks

         Part C : Microbiology   – 18 marks

         Part D : Nutrition and Dietetics – 18 marks

2.   Students appearing for Applied Science Course Examination should follow the relevant instructions given below :

   *(a)   **For those appearing for the first time for the examination of Applied Science Course :** The students should answer the questions of all the four parts in separate answer sheets provided. On the top of each answer sheet the student should enter the Enrolment No., Course Code, Course Title and Parts.*

(b) **For those who are reappearing for the examination of Applied Science Course :** *The students need to answer only those parts, on separate answer sheets, which have not been successfully completed.*

PART A

(Biochemistry)   *18 marks*

*Answer **all** questions.*

1. (a) Distinguish between Isotonic and Hypotonic solutions.   *2*

   (b) Give any two physiological importances of electrolytes.   *1*

2. (a) Write a brief note on Lipoproteins.   *2*

   (b) Name any two organic bases present in nucleotides.   *1*

3. (a) What is meant by Denaturation of Proteins ? Mention any two effects due to denaturation.   *2*

   (b) Write any two characteristics of Bio-catalysts.   *1*

4. (a) Write a short note on Blood Clotting.   *2*

   (b) Name any two abnormal constituents of urine.   *1*

5. (a) List any three sources for glucose formation in blood. $1\frac{1}{2}$

(b) Write three functions of cholesterol. $1\frac{1}{2}$

6. Explain any *two* terms from the following : $1\frac{1}{2}\times2=3$

(a) Hemolytic Jaundice

(b) Plasma

(c) Dialysis

(d) Oedema

PART B

(Biophysics) *16 marks*

*Answer **all** questions.*

7. Explain the meaning of 'accuracy' of measurement of physical quantities. *2*

8. (a) Explain the concept of force giving example from nursing practice.

(b) Describe the role of frictional force in day-to-day life. *2+4=6*

9. Explain the mechanism of therapeutic effect of cold sponging on a patient with high fever. *2*

10. Fill in the blanks : *6×1=6*

(a) A glass prism can split a ray of sunlight into _____.

(b) A lens is a transparent _____ medium bound by two curved surfaces.

(c) ECG is the record of _____ of the active heart muscles during cardiac cycle.

(d) When a current passes through a coil, _____ is created around it.

(e) A short-sighted person cannot see _____ objects.

(f) Stethoscope helps physicians and nurses in listening to _____ inside the body.

PART C

(Microbiology) *18 marks*

*Answer **all** questions.*

11. Write in brief about the following : *4×2=8*

    (a) Bacilli and Spirilla

    (b) Endemic and Epidemic

    (c) Aerobes and Anaerobes

    (d) Innate and Adaptive Immune System

12. List the portals of entry of microbes into the body with one example of an organism and the disease caused by it. *5*

13. Fill in the blanks with the appropriate terms/words : *5*

    (a) Destruction of organisms by use of gaseous agent is known as _____.

    (b) Absence or prevention of growth of pathogenic microorganisms in living tissues is referred to as _____ .

    (c) Antibacterial substance which prevents multiplying of bacteria is called a _____.

    (d) Chikungunya is caused by _____ mosquito.

    (e) Agglutination test for typhoid or paratyphoid fever is known as _____ test.

PART D

(Nutrition and Dietetics)   *18 marks*

*Attempt **all** questions. Attempt all parts of the questions at one place.*

14. (a) List the functions of nutrients.

    (b) Explain the role of food in prevention of disease.   *3+4=7*

15. Discuss the effects of disease for nutritional requirement, using examples.   *5*

16. (a) Discuss the diet therapy in iron deficiency Anaemia.

    (b) Explain the measures for promoting food safety.   *3+3=6*

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