



*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.*

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## BNS-102-A

Part-A (Marks : 18)

### APPLIED SCIENCES—BIOCHEMISTRY

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**Note :** (i) *Answer all the **six** questions.*

(ii) *Each question carries 3 marks.*

(iii) *Choice is internal.*

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1. (a) How will you prepare 1 M NaCl solution ? 2
- (b) Write any **two** factors which influence solubility of substances in solution. 1

2. (a) What are Polysaccharides ? Give *two* examples. 2
- (b) Give any **one** difference between DNA and RNA. 1
3. (a) How are proteins classified based on their shape ? Give *one* example of each. 2
- (b) Distinguish between coenzymes and cofactors. 1
4. (a) Write any *one* function of cerebrospinal fluid. 1
- (b) Explain why the persons with AB blood group are said to be Universal acceptors ? 2
5. (a) What is gluconeogenesis ? Name *two* sources for it. 2
- (b) Write *two* importance of citric acid cycle. 1
6. Explain any **two** terms from the following :  
 $1\frac{1}{2} \times 2 = 3$
- (a) Pernicious anaemia
- (b) Osmosis
- (c) Haemorrhage
- (d) Digestion

**BNS-102-B****Part-B**

(Marks : 17)

**APPLIED SCIENCES : BIOPHYSICS**

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*Note : Attempt all questions.*

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1. Enlist the *four* commonly used systems of measuring physical quantities. Give four examples of common measurements taken in nursing. 2+1=3
  
2. Define Newton's first law of motion. Why is it also known as law of inertia ? Give four illustrations of this law which are experienced in daily life and in nursing practice. 2+4=6
  
3. Explain the functioning and use of autoclave. 2
  
4. Fill in the blanks in the undermentioned statements : 1×6=6
  - (i) X-rays are highly energetic ..... waves.
  
  - (ii) Electromyography in the technique of studying ..... of muscles.

- (iii) The process of heating of tissues by passage of ..... is known as diathermy.
- (iv) The human eye behaves like a ..... lens in producing image.
- (v) The velocity of sound waves depends upon the nature and ..... of the medium in which it propagates.
- (vi) Radioisotopes are produced ..... and used clinically for diagnosis and treatment.

**BNS-102-C****Part-C**

(Marks : 18)

**APPLIED SCIENCES : MICROBIOLOGY**

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**Note :** (i) Attempt *all* questions.

(ii) Attempt all parts of the question at one place.

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1. Write in brief about the following : 4×2=8
  - (a) Difference between Algae and Fungi.
  - (b) Dry heat and moist heat sterilisation
  - (c) Exotoxin and Endotoxin
  - (d) Gram positive and Gram negative bacteria
  
2. Describe the factors which influence growth of bacteria. 5
  
3. Fill in the blanks with appropriate term/word : 5×1=5
  - (a) A very small unicellular microorganism is known as .....
  - (b) Growth of pathogenic microorganisms in living tissues is referred as .....
  - (c) An antibacterial substance which kills bacteria is referred as ..... agent.
  - (d) German measles is caused by ..... virus.
  - (e) Diarrhoeal disease in infants and children is caused by ..... viruses.

**BNS-102-D****Part-D**

(Marks : 17)

**APPLIED SCIENCES—NUTRITION AND DIETETICS**

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*Note : (i) Attempt all questions.*

*(ii) Attempt all parts of a question at one place.*

*(iii) Answer at separate answer sheet.*

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1. (a) Write the functions of protein. 4
- (b) Explain the role of food as therapy. 3
2. (a) List the steps of planning adequate balanced diet. 2
- (b) Discuss how will you as a nurse use dietary survey for assessment of nutritional status. 6
3. Write the health hazards of pesticides and fertilizers. 2