

B.Sc. Semester - 6 (CBCS) Examination
March/April-2023 (NEW COURSE)
Physiology, Biochemi, Biostat. (Core (New))

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1(A) Answer the following question. (04)

1. Maximum transpiration occurs through?
2. **Complete the statement:** The ability of plants to adjust themselves with stress is called.....
3. **True or False?** The Pfr form absorbs far red light of wavelength 710-740 nm.
4. **Define:** Transpiration pull

Q.1(B) Answer the following question. (Any One) (03)

1. **Discuss in short:** Perception of light stimulus
2. Write short notes on: Drought resistance.

Q.1(C) Answer the following question. (Any One) (07)

1. Explain the mechanism of upward conduction of water and salt.
2. Briefly discuss the mechanism of stomatal transpiration

Q.2(A) Answer the following question. (04)

1. Give two examples of plant wax.
2. **Complete the statement:** The proteins which yield amino acids or their derivatives on hydrolysis is called.....
3. **Define the term:** Primary structure of protein
4. Write the chemical formula only: triglyceride

Q.2(B) Answer the following question. (Any One) (03)

1. **Distinguish between:** Competitive and non-competitive inhibition
2. **Explain in short:** Types of alkaloids.

Q.2(C) Answer the following question. (Any One) (07)

1. Give properties of carbohydrates.
2. Discuss biological functions of esters of fatty acids and alcohol.

Q.3(A) Answer the following question. (04)

1. Find coefficient of variation, If STDV and mean is 2.8 and 42.3
2. Who first used the term variance?
3. **Define the term:** Mode
4. Find out the median of Data: 5, 11, 06, 10, 14, 21

Q.3(B) Answer the following question. (Any One) (03)

1. The following table gives the marks obtained in Botany of nine students of B.Sc. in M.D.Science collage. Calculate mean of marks.

Roll no	1	2	3	4	5	6	7	8	9
Maks	67	69	66	68	72	63	76	65	70

2. Write Merits and Demerits of mode in statistics.

Q.3(C) Answer the following question. (Any One) (07)

1. Compute the standard deviation for the following data.

Class	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	30	58	62	85	112	70	57	26

2. When a black rat (heterozygous) is crossed with another heterozygous black rat, 43 black, 15 cream and 22 albino offspring are produced in the F_2 generation. Using *chi square* test the genetic hypothesis 9:3:4 is consistent with the data. (Table value is 5.99).

Q.4(A) Answer the following question. (04)

1. **Give the technical term:** The time taken from infection until lysis.
2. **Fill in the blank:** The enzyme of the host cell activates the.....spike protein in covid-19.
3. **Define the term:** Gram positive
4. **True or False?** *E. Coli* is a Gram negative spherical bacterium.

Q.4(B) Answer the following question. (Any One) (03)

1. Write notes on symptoms of covid-19 virus.
2. Classify Microbial media based on application or function.

Q.4(C) Answer the following question. (Any One) (07)

1. **Discuss in detail:** morphology of viruses
2. Describe physical methods of sterilization.

Q.5(A) Answer the following question. (04)

1. **True or False?** Whip smut is a bacterial disease.
2. Name an insect vector for the pathogen of red rot in sugar cane.
3. What is plant pathogen?
4. Death of cells, tissue or organ of host tissue due to parasitic infection known as?

Q.5(B) Answer the following question. (Any One) (03)

1. Write notes on: Symptoms of Tikka disease of Groundnut
2. State control measures of whip smut of Sugarcane

Q.5(C) Answer the following question. (Any One) (07)

1. Discuss classification of plant disease based on severity of infection or geographical distribution.
2. Explain prophylactic measures of plant disease control
