

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Fifth Semester)

Branch – NUTRITION FOOD SERVICE MANAGEMENT AND DIETETICS

FOOD MICROBIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 Which of the following statement is true regarding bacteria?
 - (i) *Aeromonas* causes ropiness in milk
 - (ii) *Acetobacter* can oxidize ethyl alcohol to acetic acid
 - (iii) *Campylobacter* prefer increased oxygen tension
 - (iv) *Brochetix* has an optimum pH of 8.1 for its growth
- 2 Which of the following is not characteristic commonly found in virus?
 - (i) Ultramicroscopic in size, varying from 10 to 450 nm
 - (ii) Able to pass through most bacterial filters
 - (iii) Incapable of reproduction without a host
 - (iv) Able to infect plants and bacteria
- 3 Which of the following characteristic cannot be used for differentiating species of yeasts?
 - (i) Vitamin requirement
 - (ii) Nitrogen source
 - (iii) Fermentative characteristic
 - (iv) Alkali production
- 4 Mycology is the study of
 - (i) bacteria
 - (ii) virus
 - (iii) fungi
 - (iv) yeast
- 5 Soft rot is a common type of bacterial spoilage caused by
 - (i) *Erwinia carotovora*
 - (ii) *Erwinia serovora*
 - (iii) *Yersinia carotovora*
 - (iv) *Yersinia campestris*
- 6 Meat spoilage occurs without any significant breakdown of the _____ protein structure.
 - (i) Primary
 - (ii) Tertiary
 - (iii) Secondary
 - (iv) Quaternary
- 7 Regarding pH, *S. aureus* can grow over the range _____, but its optimum is in the range _____.
 - (i) 6-7, 4.0-9.8
 - (ii) 4.0-9.8, 1-2
 - (iii) 4.0-9.8, 6-7
 - (iv) 5-6, 6-7
- 8 Microbial infection resulting from ingestion of contaminated foods is known as
 - (i) Food Infection
 - (ii) Food Inflation
 - (iii) Food disinfection
 - (iv) Food Ingestion
- 9 Which of the following agents cause death to the cell by coagulation of cytoplasmic proteins?
 - (i) Alcohol
 - (ii) Heavy metals
 - (iii) Dye
 - (iv) None of the mentioned
- 10 The organisms which can grow both in presence and absence of oxygen is known as _____ microbes.
 - (i) aerobic
 - (ii) facultative
 - (iii) anaerobic
 - (iv) None of the mentioned

Cont...

SECTION - B (35 Marks)Answer **ALL** Questions**ALL** Questions Carry **EQUAL** Marks

(5 x 7 = 35)

- 11 a Classify the microorganisms based on the Whittaker five kingdom concept and explain the each category.

OR

- b Show the growth curve of batch and continuous bacterial growth and explain the various phases of it.
- 12 a Classify the molds and comment on its reproduction methods.

OR

- b Outline the economic importance of algae and recall the morphology of algae.
- 13 a Analyze the different factors responsible for the spoilage of foods.

OR

- b Outline the various spoilage caused by microorganisms in animal products.
- 14 a Describe the various toxins produced by bacteria and also comment on its effect on human health.

OR

- b State the causative agent, symptoms and prevention of parasitic food infection.
- 15 a Summarise any two methods used to identify the presence of coli forms in water.

OR

- b Explain the various physical methods used to control/prevent the growth of microorganisms.

SECTION - C (30 Marks)Answer any **THREE** Questions**ALL** Questions Carry **EQUAL** Marks

(3 x 10 = 30)

- 16 Outline the structure of bacteria and explain the various parts and its functions.
- 17 Classify the yeast based on its morphology. Explain the process of hybridization of yeast and also the importance of yeast in food industries.
- 18 Outline the various spoilage caused by microorganisms in fruits and vegetables.
- 19 Explain the different food borne diseases caused by bacteria.
- 20 Examine the composition of sewage.

Z-Z-Z

END