18FPB16

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2019
(Third Semester)

Branch - **FOOD PROCESSING TECHNOLOGY**

FOOD CHEMISTRY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions
ALL questions carry EQUAL marks (10 x 1 = 10)

1 SI unit for density is
(i) kg cm'3 (ii) g cm'3
(iii) kgm'3 (iv) gm'3

2 The amount of heat required to raise temperature of 1 kg of water by 1°C is called as
(i) heat capacity (ii) work capacity
(iii) Specific heat (iv) energy

3 Glucose on reduction gives
(i) sorbitol (ii) Mannitol
(iii) Xylotol (iv) Gluconic acid

4 Two monosaccharide units are linked by
(i) glycoside bond (ii) Peptide bond
(iii) hydrogen bond (iv) ionic bond

5 Hydrolysis of fat by alkali is called
(i) Saponification (ii) lipolysis
(iii) emulsification (iv) Rancidity

6 Number of grams of iodine absorbed by lOOg of fat
(i) iodine number (ii) Saponification number
(iii) acid number (iv) Polenske number

7 Any protein that lacks one or more essential amino acids in correct proportions are referred as
(i) Incomplete protein (ii) complete protein
(iii) Conjugated protein (iv) simple protein

8 Process in which protein lose their quaternary, tertiary and secondary structure by application of strong acid, base or alcohol or heat is called
(i) denaturation (ii) renaturation
(iii) electrophoresis (iv) sedimentation

9 Sources of vitamin A include
(i) Fat containing animal foods: liver, butter, cream, whole milk, cheese, egg yolk
(ii) carrot, sweet potato, spinach, broccoli, pumpkin, mango
(iii) both (i) and (ii)
(iv) None

10 Iron is an undesirable element in food processing , as it
(i) catalyses the oxidation of oil
(ii) increases turbidity of wine
(iii) on a constituent of drinking water, supports growth of iron requiring bacteria

SECTION - B (35 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

11 a Define the terms : Viscosity, fluidity and plasticity, surface tension and interfacial tension.

OR

b Discuss on the concept of hydrogen ion concentration.

12 a Outline about Mailard reaction, state its importance

OR

b Describe what happens when starch granutes are heated in water.

13 a Explain the physical properties of fats.

OR

b Describe the changes in fat during cooking.

14 a Comment on gelation, emulsification and foaming properties of proteins.

OR

b State the effect of heat treatment on proteins.

15 a Explain : Sensory perception of flavors.

OR

b Differentiate and characterize natural and artificial colours.

SECTION - C (30 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Elaborate on the properties of colloids.

17 Draw the structure of water and discuss the properties of water.

18 Summaries the functional properties of fat.

19 Highlight the role of enzymes in food processing.

20 Classify vitamins. Brief on its stability and degradation during cooking and processing.

Z-Z-Z END