

Sikkim Public Service Commission

Main Written Examination for the Post of Food Safety Officer under Sikkim State Subordinate Allied and Healthcare Service

PAPER II

Time allowed: 3.00.Hrs

Maximum Marks: 100

INSTRUCTIONS TO CANDIDATES

Read the instructions carefully before answering the questions: -

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES NOT HAVE ANY UNPRINTED, TORN OR MISSING PAGES OR ITEMS. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Use only Black Ball Point Pen to fill the OMR Sheet.
3. Please note that it is the candidate's responsibility to fill in the Roll Number carefully without any omission or discrepancy at the appropriate places in the OMR ANSWER SHEET for MCQ. Any omission/discrepancy will render the Answer Sheet liable for rejection.
4. Do not write anything else on the OMR Answer Sheet except the required information.
5. The total marks for this paper is 100. All MCQ type questions for Section A carries 1 mark each. Questions in Section B and C carries 20 and 30 marks respectively and has to be written on separate Answer Sheet provided to you.
6. Before you proceed to mark in the Answer Sheet (OMR), you have to fill in some particulars in the Answer Sheet (OMR) as per given instructions.
7. After you have completed filling in all your responses on the Answer Sheet (OMR) and the examination has concluded, you should hand over the Answer Sheet (OMR) and Separate answer sheet to the Invigilator only. You are permitted to take with you the Test Booklet.
8. **Marking Scheme**

THERE WILL BE NEGATIVE MARKING FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTIONS

- i. There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to the question will be deducted as penalty.
- ii. If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to the question.
- iii. If a question is left blank. i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

Section -A:Multiple Choice Questions

(50 Marks)

Choose the correct option for the following questions:

(50x1=50)

1.Subjecting fats to high temperature in the presence of oxygen such that fats deteriorate is called _____

- A) Hydrolytic rancidity
- B) Auto- oxidation
- C) Thermal decomposition
- D) Lipolysis

2.Which of the following methods pertaining to wheat milling refers to reduction of moisture content in the wheat?

- A) Cleaning
- B) Flour formation
- C) Separation of endosperms
- D) Wheat Conditioning

3. Frozen storage is generally operated at temperature of:

- A) -0°C
- B) -18°C
- C) - 60°C
- D) -50°C

4.Deficiency of Vitamin B3 causes is:

- A) Scurvy
- B) Pellagra
- C) Pernicious Anaemia
- D) Beri Beri

5.The Limiting Amino acid in pulses is_____

- A) Arginine
- B) Lysine
- C) Methionine
- D) Tryptophan

6. Vitamin which is not found in Fruits and Vegetables:

- A) Vitamin A
- B) Vitamin B1
- C) Vitamin B 6
- D) Vitamin B 12

7. Formation of abscission layer is maturity index of:

- A) Tomato
- B) Leafy vegetables
- C) Onion
- D) Melons

8. Which chemical is used for de-greening of fruit?

- A) IBA
- B) Cytokinin
- C) Gibberellic Acid
- D) Ethylene

9. Which of the following statements is true with respect to food processing?

- A) Sodium is lost during cooking and selenium is volatile and is lost by cooking or processing.
- B) Vitamins can be removed from food via leaching
- C) Mineral losses in food processing are more compared to Vitamins
- D) Boiling has less mineral losses as compared to steaming

10. Which of the following operation reduces the dietary fibre content in cereals?

- A) Drying
- B) Retro gradation
- C) Grinding
- D) Milling

11. Jam, jellies and preserves can be preserved by adding sugar at concentration of:

- A) 65%
- B) 75%
- C) 40%
- D) 30%

12. The storage of prepared food in ____ areas in the ____ of oxygen creates conditions for ____ Which option best fits the above sentence?

- A) Cold, presence, Purification
- B) Warm, absence, Putrefaction
- C) Cold, presence, Putrefaction
- D) Warm, absence, Purification

13. Which of the following is NOT a process wherein the food becomes toxin before ingestion?

- A) Botulism
- B) Staphylococcus
- C) Bacterial Intoxication
- D) Bacterial infection

14. Food Authenticity means _____

- A) The food should match the description
- B) The food should taste good
- C) It should be cheap
- D) It should have great aroma

15. Enzyme involved in the conversion of Glucose-6-phosphate to fructose -6-phosphate is ?

- A) Pyruvate Kinase
- B) Phosphofructokinase
- C) phosphogluco isomerase
- D) triose phosphate dehydrogenase

16. Mould inhibitor used in bread is:

- A) Calcium carbonate
- B) Sodium chloride
- C) Sodium / Calcium propionate
- D) Sodium Chloride

17. Which of the following gases are evolved during putrefaction?

- A) Carbon dioxide
- B) Hydrogen sulphide
- C) Nitrogen Dioxide
- D) Carbon dioxide & Hydrogen sulphide

18. How many acts are repealed by Food Safety and Standards Act, 2006

- A) 4
- B) 5
- C) 7
- D) 8

19. Which of these are responsible for the implementation of FSSAI:

- A) Ministry of Health & Family Welfare
- B) Ministry of Food Processing Industries
- C) Department of Agriculture & Cooperation
- D) Directorate General of Health Services.

20. AGMARK Act 1937" comes under

- A) Department of Consumer Affairs, Govt. of India
- B) Directorate of Marketing and Inspection
- C) Department of Agriculture & Cooperation
- D) Department of Legal Metrology

21. Which of the following is not ideal regarding the refrigerated storage

- A) Maintain temperatures of 0-5°C
- B) Do not place hot foods directly in the refrigerator as this will cause the temperature of the refrigerator to rise above 5°C
- C) Do not defrost and clean the fridge or freezer box regularly
- D) Do not overload the fridge as cold air needs to be allowed to circulate.

22. Brunner's Glands are present in?

- A) Oesophagus
- B) Ileum
- C) Duodenum
- D) Stomach

23. Journal "Indian Horticulture" is published by _____

- A) IIHR
- B) IARI
- C) ICAR
- D) IGKV

24. Which test is used for testing the significance of mean differences?

- A) t-test
- B) f-test
- C) z-test
- D) k^2 -test.

25. Which one of the following is not the intestinal movement?

- A) Peristaltic
- B) Segmenting
- C) Pendular
- D) Frenulum Linguae

26. The mean of a sample is

- A) always equal to the mean of the population
- B) always smaller than the mean of the population
- C) computed by summing the data values and dividing the sum by $(n - 1)$
- D) computed by summing all the data values and dividing the sum by the number of items

27. Which of the following microbe is used in the production of blue cheese?

- A) *Streptococcus thermophilus*
- B) *Lactobacillus bulgaricus*
- C) *Penicillium roqueforti*
- D) *Rhizopus stolonifera*

28. What does Critical Control Point mean?

- A) The point when food handlers must start to make administrative records in the HACCP system.
- B) The point when steam starts to rise from food being cooked.
- C) When bacteria starts to grow uncontrollably on food.
- D) It is a point, step or procedure at which control can be applied to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

29. What does WHS stand for?

- A) Occupational Health and Safety
- B) Work Help and Safety
- C) Work Health and Safety
- D) Well-being Health and Safety

30. Which portion of wheat is rich in starch

- A) Endosperm
- B) Bran
- C) Germ
- D) Aleurone Layer

31. Which of the following moisture content is considered safe for storage?

- A) 15%
- B) 14%
- C) 16%
- D) 17%.

32. Combination of which of the following is known as gluten?

- A) Gliadin + Glutelin
- B) Gliadin + Lysine
- C) Glutelin + Glutelin
- D) Lysine + Glutelin.

33. Silver Revolution refers to?

- A) Increased Milk Production
- B) Increased mineral production
- C) Increased egg production
- D) Increased fish production

34. Human sterility is caused mainly due to deficiency of

- A) Fats
- B) Proteins
- C) Folic Acid
- D) Vitamin E

35. Bohr Effect is related with?

- A) Reduced oxygen level in haemoglobin
- B) Reduced CO₂ level in blood
- C) Reduced carbon level in lymph
- D) Oxidised phosphorus level in blood

36. World Food Day is celebrated on?

- A) 26 July
- B) 10 October
- C) 18 December
- D) 7 January

37. SPS under WTO stands for

- A) Standards, Prevention and Specification
- B) Sanitary and Phytosanitary measures
- C) Specifications for products and supplements
- D) Safety and prevention of Sickness

38. Food Safety and Standards act, 2006 - passed by Indian parliament and notified on:

- A) 23rd July 2006
- B) 23rd June 2006
- C) 23rd August 2006
- D) 23rd November 2006

39. ISO 19011:2011 Quality Management System deals with

- A) Specifications with Guidance for use
- B) Guidelines for performance improvements
- C) Customer Satisfaction
- D) Guidelines for quality and or Environmental management system auditing

40. Coffee is adulterated with

- A) Saw dust
- B) Chicory
- C) Ghee
- D) Black pepper

41. Sugar and salt act as preservatives by:

- A) Killing Micro-organisms directly

- B) Increasing the acid content of food
- C) Increasing the water content of food
- D) Binding water so it is not available for Micro-organisms

42. Which of the these is not an International Standards and Statutes

- A) Codex Alimentarius Commission (CAC)
- B) European Union Standards (EU standards)
- C) Food and Agriculture Organization (FAO)
- D) Bureau of Indian Standards

43. FSSAI is located in 5 regions with head office located at

- A) Hyderabad
- B) Mumbai
- C) Bangalore
- D) New Delhi

44 Reducing sugars and Non reducing sugars can be differentiated by

- A) Benedict's test
- B) Barford's test
- C) Fehling's test
- D) Biuret Solution

45 The milk protein casein is

- A) Nucleoprotein
- B) Glycoprotein
- C) Phosphoprotein
- D) Lipoprotein

46. Which of the following process creates free radicals in the food which can destroy the cell membrane and attack DNA and proteins, thus preventing microorganism's growth

- A) Pasteurization

- B) Reduction
- C) Irradiation
- D) Oxidation

47. Lathyrism is caused by

- A) Argemone seeds
- B) Kesari dhal
- C) Aflatoxin
- D) Heavy metals

48. A psychrophilic halophile would be a microbe that require:

- A) cold temperatures and increased amount of salt
- B) warm temperatures and increased pressure
- C) cold temperatures and absence of oxygen
- D) warm temperature and increase amount of acid

49. Yeast and mould count determination requires.

- A) Nutrient Agar
- B) Acidified potato glucose agar
- C) MacConkey Agar
- D) Violet Red Bile Agar

50. Which of the following is false about lipids?

- A) They are either strongly hydrophobic or amphipathic
- B) They are more soluble in water
- C) Extraction of lipids from tissues require organic solvents
- D) They are insoluble in water

SECTION-B: Short Answer-Type**(20 Marks)****Attempt any 4 (four) questions from the following:****(5x4 = 20)**

1. How does HACCP work in Food Production? State its principles and why it is important?
2. What are the major food hazards? Explain about different methods of food preservation?
3. What do you mean by pasteurization?? Explain about different types of heat treatment given to milk??
4. What are the objectives of applying postharvest technology to harvested crops? Explain in brief about the types of post-harvest technology of crops?
5. Explain Vitamin A with reference to, functions, deficiency, requirement and sources.
6. Write the classification and sources of proteins? Deficiency of Vitamin C leads to which disease and list its symptoms??

SECTION – C: Long Answer – Type**(30 Marks)****Attempt any 2 (two) questions from the following:****(15x2 = 30)**

1. Write a note on food standards in India, giving its types and specific requirements laid down for a product? What do you mean by International Codex Alimentarius Commission explain giving its purpose and scope?
2. Explain in detail six different unit operations in food processing? Give the importance of food packaging and types of packages used?
3. What are the five key principles of food hygiene? Write a short note on safe food handling procedures (from market to consumer)? Explain the role of microbes in production of alcohol?
4. Give phases of microbial growth and the factors affecting the growth of microorganisms? Give names of any two food borne infections and their sources?