

Food Microbiologist

Assessment for LEVEL-6 Certification

(Parallel with *FIC/Q7008: Food Microbiologist, NSQF Level 6*)

CANDIDATE'S DETAILS (Fill in Capital Letters only)	
CANDIDATE'S NAME	
AADHAR / IDENTITY CARD NUMBER	
SDMS ENROLMENT ID	
BATCH ID	
TRAINING CENTRE NAME	
LOCATION	
Candidate's Sign	

Assessor's Sign: _____

Instructions:

- The question paper consists of Theory and Practical paper
- Complete the theory part first and then move on to the practical part
- The Theory Paper is of 235 Marks
- All questions are compulsory
- Give a point wise answer wherever applicable
- Only use Blue/Black Ball point pens to answer the question paper
- Read the questions carefully before answering
- Put a tick Mark (v) in the box against the right option
- Do not write anything in the section marked for the assessor
- Time allotted for theory: 2 hour

Part I: Preparation of the workplace & Equipments

1. Write the full form of the following: **(3X 3= 9 marks)**

- i) FSSAI _____
- ii) ISO _____
- iii) HACCP _____

2. Identify the **Five** processes that are undertaken in food microbiology: **(2X 5= 10 marks)**

Sampling	Plating	Pasteurizer
Serial Dilution	Shanking	Blanching
Packaging	Staining	Refrigeration

3. Identify the machine utilized for the process: **(3 X 3= 9 marks)**

i) Used to sterilize solids, liquids, hollows of various shapes and sizes	
ii) Provide a controlled, contaminant-free environment for safe, reliable work with cell and tissue cultures by regulating conditions such as temperature, humidity, and CO2	
iii) Simple tool used mainly by microbiologists to retrieve an inoculum from a culture of microorganisms	

8. Explain the process of preparing culture media. **(5 marks)**

9. What is the importance of sample collection? **(5 marks)**

10. What is the purpose of Laminar air flow cabinet? **(5 marks)**

4. Which of the following will be used for producing a single open gas flame? **(3 marks)**

- i) Vacuum pump
- ii) Bunsen burners
- iii) Incubator
- iv) None of these

5. Select **ONLY TWO** things that should be done before using a machine? **(2 X 2 = 4 marks)**

Check if it is clean and dry	Put water in it	Spray disinfectant in it	Attend any minor faults	Clean it with broom
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Part II: Carry out microbiological analysis of food products

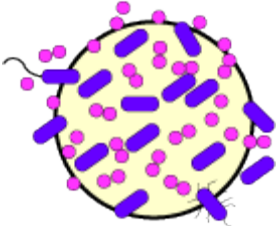



6. What is the purpose of culturing bacteria? **(3 marks)**

- i) To obtain antigens for vaccines
- ii) To isolate pathogens
- iii) To ferment lactose
- iv) None of these

7. With respect to the growth of spoilage microorganisms in foods, which phase of the “microbial growth curve” is the most significant? **(3 marks)**

- i) Lag phase
- ii) Stationary phase
- iii) Death phase
- iv) None of these

11. Name the type of Inoculation method used for the shown media: **(3 x 2 = 6 marks)**

Sample Type	Media Type	Inoculation Method
	 Broth	
	 Agar Plates	

12. Why is it important to dispose the prepared media according to SOP? **(5 marks)**

13. Most spoilage bacteria grow at _____. **(3 marks)**

- i) Acidic pH
- ii) Alkaline pH
- iii) Neutral pH
- iv) All of these

Part III: Monitor food safety system

14. What should you use while stirring hot items?

- i) Fire resistant item
- ii) Toothpick
- iii) Hand
- iv) Wooden item

15. What is an example of biological hazard?

- i) Dirt
- ii) Salmonella
- iii) Cleaners
- iv) Antibiotics

16. How do sugar and salt act as preservatives?

- i) By increasing water content of food
- ii) By increasing the acid content of the food
- iii) By killing micro-organisms directly
- iv) By binding water so it is not available for micro-organisms

17. Which one of the following jewellery is acceptable for food handler to wear?

- i) Plain wedding band
- ii) Bracelet
- iii) Arm ring
- iv) A religious ring

18. What are the basic steps of washing hands?

- i) Wash thoroughly with water and dry
- ii) Apply soap, wash thoroughly, rinse and use paper towels
- iii) Apply soap, wash thoroughly
- iv) Any of these

20. What are the three different types of hazards?

- i) Physical and chemical
- ii) Microbiological, physical and chemical
- iii) Physical, chemical and biological
- iv) Animal hair, pesticides and salmonella

19. Which of the following is true about bacteria?

- i) Bacteria multiplies and grows in warm environments
- ii) Bacteria needs air to survive
- iii) Every type of bacteria can give people food poisoning
- iv) By freezing food you can kill bacteria

Part V: Complete documentation and record keeping related to microbiological analysis

21. Select only **THREE** details regarding the raw material which should be documented. (2 x 3 = 6 marks)

Sampling Date	Results and findings	Microbiological standards
Sampling Point	Number of gloves used	Sampling procedure

22. Select **ONLY ELEVEN** items from the table which is a reason for **why documentation is done**. (4 X 11= 44 marks)

It gives detailed knowledge about running of the business	It helps to clean the food handling equipment and machineries	It helps to set an appropriate product price.
It helps in raw material storage	It helps to control product quality.	It helps in theft
It helps to keep track of the money invested in the business.	It works as an evidence for legal procedures.	It helps to take corrective measures at the right time.
It helps to identify the separate costs of raw material or product ingredients	It helps in tracking what material was used in which product	It helps in sending the produce to the market
It helps to identify the production cost of a particular process.	It helps to ensure that quality assurance procedures are followed.	It helps to ensure that the production unit is running smoothly/effectively

23. Select **ONLY TWO** correct option which suggest the reason of why the **stock rotation method is used** (2 X 2 = 4 marks)





Ensure market demand	Ensure there is a minimum chance of food spoilage	Ensure continuous income	Help to retain the taste of processed foods.
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24. Which of the following information has to essentially written on milk packet? (2 X 3 = 6 marks)

Best Before Date	Dimension of packet	Date of Manufacture
Color of packaging	Lot /Batch Number	Company supplying packets

Part V: Health, Hygiene & Safety

25. Identify and tick the correct name of the shown equipment/symbol used for maintaining hygiene. (2.5 X 4 = 10 marks)

			
i. Head mask ii. Hair Restraint	i. Single use gloves ii. Rubber gloves	i. Ear plugs ii. Ear enhancers	i. Nose and Mouth Mask ii. Smell & Odor retardant

26. Tick the correct option from the two given options: (1 X 11= 11 marks)

Step 1: Wet hands & (arms / legs) with (mild/ warm) water

Step 2: Apply (soap / surf)

Step 3: Use enough to build a good (bubbles / lather)





Step 4: Vigorously (scrub / rub) hands & arms for (4-5 / 10-15) seconds.

Step 5: Clean under finger (nails / tips) and (inside / between) finger

Step 6: (Rinse / Wash) under running water and (rinse/wash) thoroughly.

Step 7: Dry using a (single use / wet) paper towel.

27. Identify and tick the correct name of the following safety equipments/signage (1.5 X 4 = 6 marks)

			
i. Don't use hands ii. No Entry	i. Assembly point ii. Refreshment point	i. Hot, don't touch. ii. Thorns, don't put hands	i) Air Extinguisher ii) Fire Extinguisher

28. Tick on the correct option: (1 X 8 = 8 marks)

- i) You should be aware about any potential physical/chemical/biological hazard that can occur at the work place. **(YES/ NO)**
- ii) It is alright if rodents/pest/flies etc are present in the baking area. **(YES/ NO)**
- iii) Periodic audits should be conducted to ensure safety and hygiene. **(YES/ NO)**
- iv) Documenting what has been used for which product may help for future reference, in case required **(YES/ NO)**
- v) The quality of food can be determined by its aroma, appearance, taste and best before date. **(YES/ NO)**
- vi) Storing raw food with cooked ones can result in cross-contamination. **(YES/ NO)**
- vii) Labeling material can help in avoiding confusion while identification? **(YES/ NO)**
- viii) FIFO means First in First Out. **(YES/ NO)**

Part VI: Manage and lead a team

29. Select any 6 options from below which are a part of your responsibility at work:(6 x 2 = 12 Marks)

Ensure periodic training of the team	Report all work related issues to the Company owner	Inform the team in case of any changes in company policies or processes
Measure performance of the team in an objective manner	Measure performance of the team based on what others in the organization feel about the team	Consider the skills, interests and strength of the individuals when assigning work to the team
Ensure that the team is aware of the job expectations	Plan training sessions for the team only if something goes wrong	Resolve conflict if any within the team and address work related issues
Inform change in company policies or processes only to selected members in the team		

30. The team working with you is dissatisfied with the company policies and procedures, and you notice a decline in their efficiency at work. What would you do in such a case? **(3 marks)**

- i) Force the team to complete the given work anyhow and tell them that they have no right to question the policies or procedures
- ii) Listen, counsel and address the issues raised by the team and report necessary issues to the manager
- iii) Focus on the production target and ignore issues raised by the team unless told by your manager
- iv) Ask the team to take leave for few days and stop the ongoing work at the factory

31. State Yes or No for the following statements: **(2 X 5 = 10 Marks)**

- i) When assigning tasks, I consider people's skills and interests **(Yes / No)**
- ii) I expect my team to work harder than I do **(Yes / No)**
- iii) When working with a team, I encourage everyone to work toward the same overall objectives **(Yes / No)**
- iv) I do not consider training very important **(Yes / No)**
- v) Team leader should understand any issues faced by the team **(Yes / No)**

32. Which of the following do you feel will improve the production & efficiency of your organization? Mark any **FIVE (2 x 5 = 10 Marks)**

Intolerance towards minutest of errors by any individual	Share knowledge of processes, techniques and products	Not waste time in training when the team is already working
Training the employees	Cut down on cost by reducing wages & compensation fees for employees	Quick communication flow
Participation & involvement of the team in engagement initiatives by the organization	Performance Measurement & feedback	Stop guiding the team members and let them work the way they want

Practical Test

Perform All the following:

1. *Prepare culture media for microbiological analysis*
2. *Prepare sample for microbiological analysis*
3. *Inoculate and incubate samples*
4. *Estimate and calculate microbial count*
5. *Preserve pure microbial culture*

Analyze the results and provide feedback/recommendations

Marking Sheet:

Criteria	Parameters	Marks	Marks Obtained
Preparation of workplace (65 Marks)	Preparation of Work Area	20 marks	
	Preparation Of Tools & Equip.	25 marks	
	Adherence to food safety norms	20 marks	
Carry out microbiological analysis (65 Marks)	Handling Tools	10 marks	
	Handling Materials & chemical	15 marks	
	Plan equipment utilization	15 marks	
	Organize raw material	15 marks	
	Adherence to safety standards	10 marks	
Monitor food safety system (65 marks)	Use of correct method	15 marks	
	Stepwise work	25 marks	
	Correctness of reading/observation	25 marks	
Recording the Test Result (40 marks)	Explanation of steps	20 marks	
	Clarity & completeness of data	20 marks	
Total		235 marks	

Part V: Ensure Health and safety

Viva Sheet: Ask the candidate for the explanation of the various procedure that they have used in the test.

Factors	Technical Knowledge	Ability to explain	Correctness & completeness of answer	Attitude & Behavior	Total
Marks	20	15	15	15	65
Obtained Marks					

Part VI: Manage and Lead a team

Scenario: Working in a dairy processing factory, you notice that some of the team members working with you are not following proper food safety and hygiene related processes while working.

- How will you communicate the right process?
- What can be done to avoid such situations in future?
- What will you do if they do not listen to you or are unable to follow the instructions?
- Any suggestions/ inputs you may like to share with your manager regarding the matter?

Factors	Communication of information to the team	Importance of participation of team members in organizational activities, meetings and engagement programs	Ability to handle situations and understanding the process of conflict resolution	Supporting seniors & giving relevant inputs for decision making	Training of the Team to enhance skill level	Total
Marks	24	8	8	12	13	65
Obtained Marks						

Theory Marking Sheet

Part	NOS Number	NOS	Theory Marks		Practical	
			Total	Obtained	Total	Obtained
Part I	FIC/N7024	<u>Part I: Preparation of the workplace & Equipments</u>	35		65	
Part II	FIC/N7025	<u>Part II: Carry out microbiological analysis</u>	35		65	
Part III	FIC/N7026	<u>Part III: Monitor Food safety</u>	35		65	
Part IV	FIC/N7029	<u>Part IV: Documentation & Record Keeping</u>	60		40	
Part V	FIC/N9001	<u>Part V: Health, Hygiene & Safety</u>	35		65	
Part VI	FIC/N9004	<u>Part VI: Manage and lead a team</u>	35		65	
Total			235		365	