

KATHMANDU UNIVERSITY
End-Semester Examination
February/March, 2018

Marks Scored:

Level : B.Tech.
Year : IV

Subject : BIOT 403
Semester: I

Exam.Roll No:

Time: 30 mins

F. M. : 20

Registration No.:

Date MAR 04 2018

SECTION "A"

[20 Q. \times 0.75=15 marks]

1. The letters GMP stand for
 - a. Good manufacturing procedures
 - b. Good manufacturing practices
 - c. Good modes of practices
 - d. Good mentoring practices
2. The presence of antibiotic residues in broiler meat
 - a. Is an example of biological hazard
 - b. Is an example of chemical hazard
 - c. Is an example of physical hazard
 - d. Causes food infection
3. One of the three types of foodborne hazards is
 - a. Temperature
 - b. Biological
 - c. time of cooking
 - d. raw meat
4. The mold that produces aflatoxins is called
 - a. *Claviceps*
 - b. *Penicillium*
 - c. *Aspergillus*
 - d. *Deuteromyces*
5. Which of the following ISO Standards preferably selected for certification of processed meat?
 - a. ISO 9001:2015
 - b. ISO 9004: 2000
 - c. ISO 17025: 2005
 - d. ISO 22000:2005
6. Which one of the following is not embodied in Risk Management Policy options?
 - a. Risk comparison policies
 - b. Risk balancing policies
 - c. Risk threshold policies
 - d. Risk communication policies
7. Good personal hygiene includes
 - a. Using hand sanitizers instead of hand washing
 - b. Keeping hands and clothes clean and sanitary
 - c. Wearing attractive uniforms
 - d. Cleaning and sanitizing food-contact surfaces
8. The number of defectives is given by
 - a. p chart
 - b. np chart
 - c. c chart
 - d. u chart

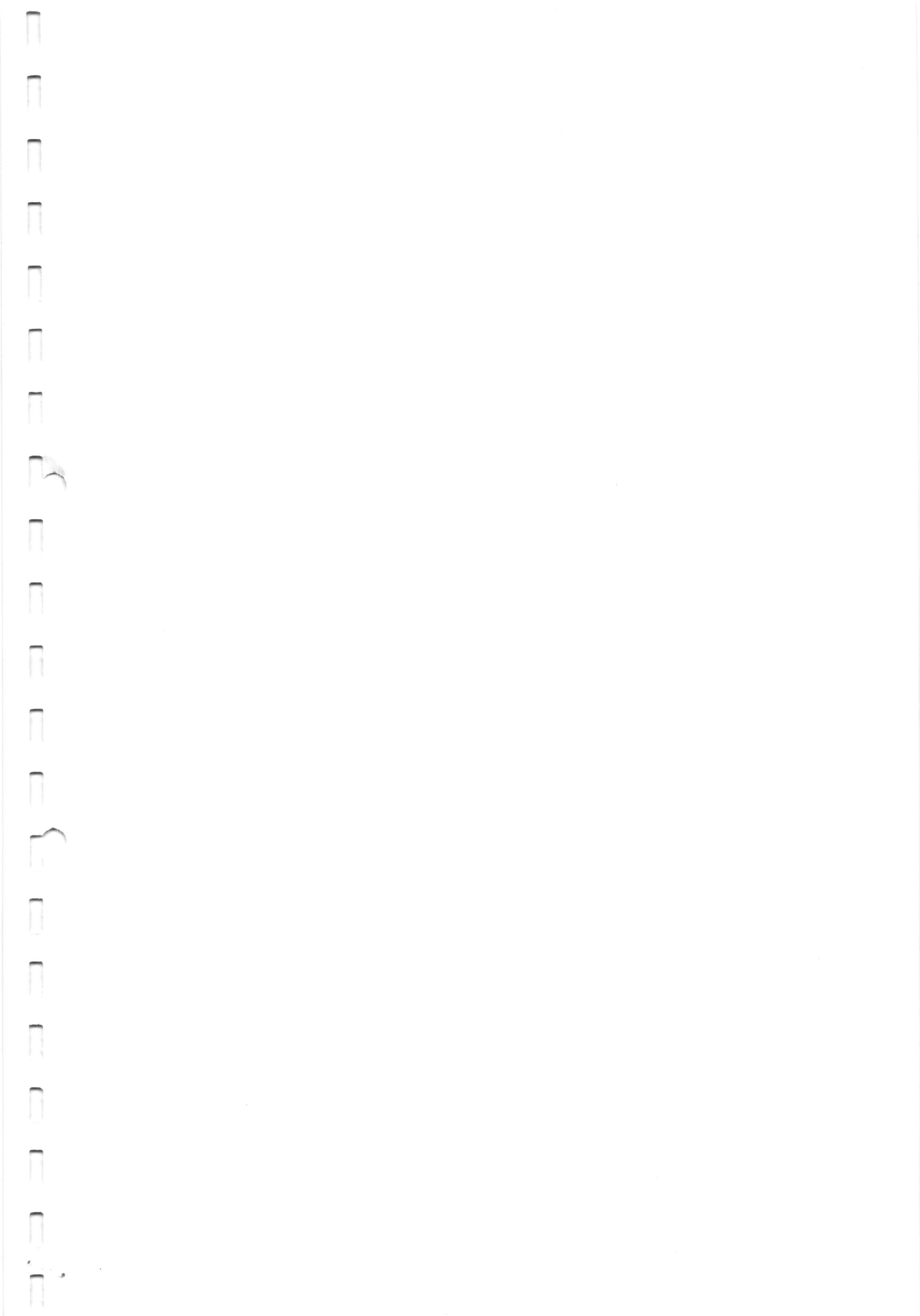
9. Which of the following is an accepted personal hygiene practice?
- Wearing jewelry and false fingernails
 - Smoking and eating in food production areas
 - Wearing caps and hats
 - Wiping hands on a soiled apron
10. Food-borne illness can be caused by:
- Poor personal hygiene
 - Cross-contamination
 - Temperature abuse
 - All of the above
11. Exposure assessment of chemical hazard is a part of
- Risk Assessment
 - Risk Management
 - Risk Characterization
 - Hazard characterization
12. The Hazard Analysis Critical Control Points (HACCP) System should be employed:
- Whenever potentially hazardous foods are prepared regardless of the type of food establishment
 - Only in institutional food facilities that provide food for every young or frail elderly consumers
 - Only in convenience stores where mechanical dish washing
 - Only when foods are sold by a food establishment for consumption off site
13. Which of following statement about critical control point monitoring is false?
- Monitoring in a series of observations and measurements that is used to determine whether a critical control point is under control
 - The monitoring of critical limits can be performed either continuously or at predetermined intervals
 - Individuals who perform monitoring tasks must be management personnel who will do the job in an unbiased manner
 - An operation that identifies critical control points but does not establish a monitoring system has not actually implemented a HACCP System
14. The first step in developing a cleaning programme for environmental area is to:
- Determine the cleaning needs
 - Assign cleaning jobs to employees
 - Obtain the equipment and supplies needed to implement the cleaning
 - Conduct a training programme to teach employees how to clean properly
15. The ratings in RPN for "S x O x D" are scored on a scale from
- 0-10
 - 10-20
 - 20-30
 - 30-40
16. Who developed "Cause and Effect Diagram"?
- Deming
 - Juran
 - Ishikawa
 - Crosby

17. "Quality is never an accident, it is always the result of intelligent effort" is quoted by:
 a. Philip Crosby b. Joseph Juran c. John Ruskin d. John Bank
18. Surveillance Audit is conducted
 a. Before certification b. After three months of certification
 c. One in six months d. Once in six months till the certification period is over
19. In bottled water, bottle size and shape belongs to the following WTO requirements
 a. SPS Agreement b. TBT Agreement
 c. Agriculture Agreement d. CODEX
20. Control chart for attributes makes assessment of the following parameters in Mango Juice Manufacturing
 a. Sugar content b. Percentage of rejection
 c. Brix % d. pH

SECTION "B"

[10 Q. × 0.5 = 5 marks]

1. U Chart is used to analyze _____.
2. For international recognition, testing and analysis should be conducted in _____.
3. Proficiency testing is done for _____.
4. The unit of analytical result of 2000 ppb of ochratoxin in parchment coffee is _____.
5. The upper warning limit in control chart is represented by the equation _____.
6. In dairy industry, the raw milk containing more than 7 log cfu/ml is _____.
7. Certification is conformity with requirements as defined in _____.
8. _____ shows the correlation between Brix and alcohol in brewing industry
9. The culture of working as a _____ should be promoted for a successful enterprises
10. _____ is the international body for defining HACCP



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SECTION "C"

[3 Q. × 7 = 21 marks]

Attempt any *THREE* questions:

1. Describe the pros and cons of implementing ISO 9001 Standard for certification of export-oriented medicinal plants of Nepal.
2. Elaborate the principles of process Failure Mode Effect Analysis (FMEA) in biotech industry in consideration of its relevance and compatibility with HACCP System
3. Explain briefly the significance of Quality Improvement Technique in antibiotic industry by embracing the QI tools such as Control Chart and Pareto Diagram
4. Case study
Nepal exports tea to Germany. A limited number of testing laboratories has obtained accreditation from NABL, India, for testing various parameters such as compositional analysis. The contaminants such as pesticides, antibiotics, mycotoxins and microbiological assessment are yet to obtain accreditation from international accrediting bodies. There are complaints about the presence of some pesticide like tetradifin (0.24 ppm) and the consignments are detained at the port of our destination i.e. Germany. The representative samples were taken from the consignment and sent to the competent German laboratory for quality assurance. The cost of analyzing one sample is US \$ 2,000. The cost of analysis is very expensive from the perspective of Nepal where similar sample can be analyzed with the cost price of NRs 3,000 per sample. The acceptance of consignment after testing may get through in some cases, however, the consignments are rejected with the heavy loss of about NRs 1 billion along with the good will loss of the country. Based on this unpredictable situation, how can we regularize our export market of tea without any hassles in quality and safety assurance?

Discuss

- a) How do you assess the gaps of quality assurance system?
- b) How can you ensure the acceptance of test report of Nepalese Laboratory elsewhere?
- c) What strategic plan you propose to mitigate this burning issue of tea?

SECTION "D"
[6 Q. × 5 = 30 marks]

5. What is Joseph Juran's modality of quality improvement?
6. How can Equivalence Agreement be made between two trading partner countries as per SPS requirements?
7. What is the significance of Total Productive Maintenance in manufacturing industry?
8. Why is Poka Yoke used as a tool for manufacturing zero defect products?
9. How do you assess the risk characterization of fresh vegetables produced in Panchkhal, Kavre?
10. What is the importance and status of traceability raw foods procured at KU canteen.

SECTION "E"

11. Distinguish between. (*ANY TWO*) [2×2=4]
 - a) Adequacy Audit and Compliance Audit
 - b) Quality Assurance and Quality Improvement
 - c) Codex and OIE