JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS-2022

M.Tech-II Semester (BT)

COURSE CODE (CREDITS): 14MIWBT334 (3) MAX. MARKS: 35

COURSE NAME: Quality Control Analysis and Management

COURSE INSTRUCTORS:Dr. Gopal Singh Bisht MAX. TIME: 2 Hours

Note: *All questions are compulsory. Marks are indicated against each question in square brackets. This paper contains two pages.*

Q1. A quality control inspector at the Crunchy Potato Chip Company has taken 3 samples with 4 observations each of the volume of bags filled. The data and the computed means are shown in the following table. If the standard deviation of the bagging operation is 0.2 ounces, use the information in the table to develop control limits of 3 standard deviations for the bottling operation. Construct control chart check whether the process is under control or not in terms of centrality and comment on the state of the control. [COV] [4]

Sample of Potato chip bag volume in Ounces				
Sample no.	Observations			
	1	2	3	4
1	12.5	12.3	12.6	12.7
2	12.8	12.4	12.4	12.8
3	12.1	12.6	12.5	12.4
4	12.2	12.6	12.5	12.3
5	12.4	12.5	12.5	12.5
6	12.3	12.4	12.6	12.6
7	12.6	12.7	12.5	12.8
8	12.4	12.3	12.6	12.5
9	12.6	12.5	12.3	12.6
10	12.1	12.7	12.5	12.8
Mean $\overline{X}$	12.4	12.5	12.5	12.6

Q2. Explain advance QC approaches such as Quality by design and method transfer process. Why it is important to indentify critical quality attributes (CQA), critical process parameters (CPP) and Critical Process control (CPC) for a process. [COIV][6]

Q3. Quality of food product is essential; Give accounts of why foods are processed? What quality parameters are required to pass through for processed food before its utilization? [COIV] [3]

Q4. Answer/ explain the followings. (Answer briefly) [COI, COIII][2x5=10]

a) How GMP assure the quality of products in biotech or Pharmaceutical industry?

b) Describe important quality control guidelines related to microbiological laboratories.

c) In the quality management, explain the consequences of cost of poor quality.

d) Discuss the ways to handle equipment malfunction and report faults during equipment breakdown.

e) How the concept of quality management evolved over time?

Q5. In pharmaceutical industry every process is validated, then why do we have failure. How six sigma approache can be used for problem solving in investigation? [COIII][5]

Q6. Discuss risk identification process and tools/techniques used for risk identification by taking example of HAZOP and HACCP. [COIV][5]

Q7. Writing investigation report of quality failure is mandatory, discuss briefly. [COIV][2]