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53 (FPT 602) FQMN

2014

**FOOD ANALYSIS, QUALITY CONTROL  
AND MANAGEMENT**

**Paper : FPT 602**

*Full Marks : 100*

*Time : Three hours*

***The figures in the margin indicate full marks  
for the questions.***

*Answer any five questions.*

1. (a) Define the following :
  - (i) Quality
  - (ii) Quality Control
  - (iii) Quality Assurance
  - (iv) Total Quality Management. 1×4
- (b) Write the common quality measures required for a processed food. 6
- (c) Briefly explain how a food sample can be analysed with respect to color, texture and flavour to determine the quality. 10

*Contd.*

2. (a) Explain Texture Profile Analysis test of a food sample. 10
- (b) How extrinsic and implicit factors affect microbial growth in a food sample ? 10
3. (a) What are the roles of hydrogen ion, water activity and redox potential in microbial growth. 10
- (b) Define HACCP. What are the seven principles of HACCP ? Show the decision tree method to determine the CCP in a HACCP system. 1+5+4
4. (a) What is six sigma ? Why is six sigma fascinating ? 1+5
- (b) (i) What is food adulteration ? 1×4
- (ii) What is intentional adulterants ?
- (iii) What are the *three* attributes measured for color measurement ?
- (iv) What is the measuring units of hardness and chewness ?
- (c) Explain the *five* elements of six sigma. 10

5. (a) Write the name of the adulterant and test for detection of adulterants of the following foods 2×5
- (i) Sugar
  - (ii) Turmeric
  - (iii) Ghee
  - (iv) Common salt
  - (v) Milk.
- (b) What are the reasons for food adulteration ? How food adulteration is different from food additives ? 6
- (c) Differentiate between DMAIC and DMADV. 4
6. (a) What are the different sensory tests employed for food evaluation ? Explain Duo-Trio and Triangle test. 10
- (b) The Evolution of “Total Quality Management” — Explain the statement with the contribution from few quality Gurus. 6
- (c) Explain the “Plan-Do-Study-Act” cycle. 4

7. (a) How control charts can be constructed ?  
Explain. 8
- (b) Explain the role of food laws, official inspections and consumer expectations as regard to food, quality and safety with a schematic diagram. 4
- (c) Write short notes on : 2×4
- (i) PFA
- (ii) Codex Alimentarius Commission.