



**M.Sc. I Semester Degree Examination, April/May - 2024**

**CHEMISTRY**

**R and D and Quality Control  
(NEP)**

Time : 1 Hour

Maximum Marks : 30

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**Note :** Answer *all* questions.

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1. What are the primary sections and responsibilities in chemistry-related industries ?
  - (A) Production and Testing
  - (B) Research and Development
  - (C) Execution and Control
  - (D) Design and Reactions
  
2. Which software is commonly used for drawing chemical structures ?
  - (A) Scifinder
  - (B) Computational Chemistry
  - (C) Chemdraw
  - (D) Docking Software Pro
  
3. What is the importance of Research and Development in the chemistry industry ?
  - (A) Execution of reactions
  - (B) Control of production
  - (C) Process and product development
  - (D) Testing of in-house failure products
  
4. In the production phase, what is crucial for ensuring the quality of products ?
  - (A) Control and Execution
  - (B) Testing of in-house failure products
  - (C) Research and Development
  - (D) Design and Reactions



5. Which software is specifically used for computational chemistry in the process of docking ?
- (A) Lambda (B) Scifinder  
(C) Computational Chemistry (D) Docking Software Pro
6. What is the role of in-house failure in the Research and Development process ?
- (A) Importance assessment (B) Addressing failures  
(C) Execution control (D) Testing of products
7. What is the primary purpose of Chemdraw software ?
- (A) Computational Chemistry  
(B) Process development  
(C) Drawing chemical structures  
(D) Testing of in-house failure products
8. Which phase involves the design and execution of reactions ?
- (A) Production (B) Testing  
(C) Research and Development (D) Control
9. What is the primary responsibility during the production phase ?
- (A) Control of reactions  
(B) Testing of products  
(C) Execution of reactions  
(D) Design and Development
10. What is commonly used for information retrieval in chemistry-related industries ?
- (A) Docking Software Pro (B) Scifinder  
(C) Computational Chemistry (D) Control and Execution



11. Which of the following is a responsibility of Quality Control in the Pharmaceutical industry ?
- (A) Method development and validation
  - (B) ISO accreditation
  - (C) Total Quality Management
  - (D) Roadmap to TQM
12. What is the analytical parameter used to determine the lowest concentration of a substance that can be reliably detected but not necessarily quantified ?
- (A) Roadmap to TQM
  - (B) LOD (Limit of Detection)
  - (C) 6 sigma concept
  - (D) KAIZEN
13. Which concept emphasizes achieving continuous improvement and eliminating defects in processes ?
- (A) Quality Circles
  - (B) 6 sigma concept
  - (C) ISO 9000
  - (D) KAIZEN
14. What is the purpose of ISO accreditation in the context of Quality Assurance ?
- (A) Method development and validation
  - (B) Roadmap to TQM
  - (C) Achieving organizational excellence
  - (D) Intellectual Property Rights
15. Which methodology is often associated with continuous improvement and customer satisfaction in Total Quality Management ?
- (A) Roadmap to TQM
  - (B) KAIZEN
  - (C) Quality Circles
  - (D) Models for organizational excellence
16. What does LOD stand for in the context of analytical parameters ?
- (A) Limit of Detection
  - (B) Limit of Quality
  - (C) Limit of Validation
  - (D) Level of Development



- 17.** In the Total Quality Management perspective, what is the focus of Quality Circles ?
- (A) Achieving ISO accreditation
  - (B) Roadmap to TQM
  - (C) Continuous improvement through employee participation
  - (D) Models for organizational excellence
- 18.** Which ISO standard is associated with quality management systems ?
- (A) ISO 9000
  - (B) KAIZEN
  - (C) 6 sigma concept
  - (D) Quality Circles
- 19.** What is the primary focus of 6 sigma concept ?
- (A) Roadmap to TQM
  - (B) Eliminating defects and achieving process improvement
  - (C) Models for organizational excellence
  - (D) Achieving ISO accreditation
- 20.** Which concept is related to the continuous pursuit of excellence in all aspects of an organization ?
- (A) Roadmap to TQM
  - (B) KAIZEN
  - (C) Total Quality Management
  - (D) Models for organizational excellence
- 21.** What is the primary purpose of safety apparels in industries ?
- (A) Regulatory requirements
  - (B) Recovery
  - (C) Precautions and protection
  - (D) Incineration
- 22.** In the context of safety, what should be done in case of handling toxic and explosive materials ?
- (A) Recovery
  - (B) First aid in case of emergency
  - (C) Incineration
  - (D) Control



- 23.** What does the environmental treatment plant primarily focus on ?
- (A) Control and monitoring
  - (B) Preparing for interviews
  - (C) Recovery and incineration
  - (D) Regulatory requirements
- 24.** Which regulatory requirements are associated with the environmental treatment plant ?
- (A) Toxic metals treatment
  - (B) Recovery
  - (C) First aid in case of emergency
  - (D) Regulatory requirements
- 25.** In the context of the environmental treatment plant, what is the primary method for treating liquid and solid waste ?
- (A) Recovery      (B) Incineration      (C) Control      (D) Monitoring
- 26.** What is the primary focus of toxic metals treatment in the environmental treatment plant ?
- (A) Control      (B) Recovery      (C) Incineration      (D) Elimination
- 27.** In the handling of toxic and explosive materials, what is the recommended precaution ?
- (A) Recovery      (B) Incineration
- (C) Precaution and protection      (D) Control
- 28.** What is the primary purpose of first aid in case of an emergency in industries ?
- (A) Elimination
  - (B) Recovery
  - (C) Incineration
  - (D) Immediate assistance and medical care



- 29.** What does the term “incineration” refer to in the context of the environmental treatment plant ?
- (A) Control of waste
  - (B) Elimination of toxic metals
  - (C) Recovery of materials
  - (D) Controlled burning of waste
- 30.** In the context of safety practices, what is the significance of safety apparels ?
- (A) Control and monitoring
  - (B) First aid in case of emergency
  - (C) Precautions and protection
  - (D) Regulatory requirements

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