

Duration: 3 Hours

Total Marks: 75

- N.B.: 1. All questions are compulsory
2. Figures to right indicate full marks.

- Q.I Multiple Choice Questions** 20
1. **Scale up consideration for dry blending process include-** 1
 - a) Compression speed
 - b) Drying time
 - c) Drying temperature
 - d) Mixing time
 - 2.. **Platform Technology refers to** 1
 - a) Scale up processes
 - b) Quality management tool
 - c) Base technology for advanced research
 - d) Validation techniques
 3. **Changes in batch size beyond a factor of ten times the size are considered as _____ change** 1
 - a) Level I
 - b) Level II
 - c) Level III
 - d) Level IV
 4. **Following functions are carried out by pilot plant team-** 1
 - a) Master formula, validation, vendor selection
 - b) Master formula, staff recruitment, validation
 - c) Staff recruitment, market survey, validation
 - d) Validation, vendor selection, market survey
 5. **SUPAC guidelines are applicable for-** 1
 - a) Post marketing changes
 - b) Pilot plant scale up
 - c) Batch validation
 - d) Stability studies
 6. **VMP is _____** 1
 - a) Validation Mixing Plan
 - b) Validation Master Plan
 - c) Valuation Mixing Plan
 - d) Validation Measure Procedure
 7. **Example of vertical Tech Transfer is-** 1
 - a) One Manufacturing unit to other unit in same country
 - b) R & D to Manufacturing
 - c) One Manufacturing unit to other in another country
 - d) Public sector to Private sector
 8. **Preparation of Master Formula Card is done in — phase of Tech Transfer** 1
 - a) Planning phase
 - b) Research Phase
 - c) Development phase
 - d) Production phase

9. **Acceptance criteria for process validation are given by-** 1
- a) Master Formula Card
 - b) Batch Manufacturing Record
 - c) Validation Master Plan
 - d) Receiving Unit
10. **CFR stands for** 1
- a) Code of Federal Regulations
 - b) Center of Federal Regulations
 - c) Code of Federal Register
 - d) Center of Federal Regulator
11. **Investigational New drug application form is to provide data showing results of** 1
- a) Clinical studies
 - b) Preclinical studies
 - c) Post clinical studies
 - d) None
12. **How many types of IND application form are available** 1
- a) 5
 - b) 4
 - c) 3
 - d) 2
13. **Animal Drug metabolism studies are part of** 1
- a) Preclinical study
 - b) Clinical study
 - c) Bioavailability study
 - d) Bioequivalence study
14. **21CFR part 312 used for** 1
- a) Investigational New Drug Application
 - b) Orphan drug
 - c) Institutional Review Board
 - d) Drug Labelling
15. **'Drying temperature' can be considered as _____ while applying QbD** 1
- a) Critical Quality Attribute
 - b) Critical Material Attribute
 - c) Critical Process Parameter
 - d) Critical Reference Attribute
16. **Identify the body responsible for accreditation of testing laboratories** 1
- a) WHO
 - b) CDSCO
 - c) COPP
 - d) NABL
17. **_____ is used in the pharmaceutical industry to modify any process.** 1
- a) Change Control
 - b) Six Sigma
 - c) Total Quality management
 - d) NABL accreditation

18. Under Drug and Cosmetic Act CDSCO is responsible for all EXCEPT, 1
- Approval of drug
 - Conduct of Clinical Trial
 - Laying down the standards for drug
 - Content and reliability of linked website
19. According to ICH M4 which format is used to assemble all the Quality, safety, efficacy information 1
- Common Technical document
 - Drug Master File
 - Validation master Plan
 - Batch Manufacturing Record
20. Full form of MAA 1
- Marketing Authority Appliance
 - Marketing Authorization Application
 - Marketing Autonomous Application
 - Marketing Autonomous Authorization

- QII Answer the following (any two) 20**
- Enlist the areas covered by SUPAC guidelines. What are the different levels defined by them? Explain the levels with respect to any one change. 10
 - What are the objectives of Technology Transfer? Explain the three phases of Tech Transfer in detail. 10
 - Classify IND and Elaborate on general information regarding Investigational New Drug Application 10

- QIII Answer the following (any seven) 35**
- Write in brief the objective & personnel requirement of the Pilot Plant. 5
 - Elaborate on the information related to Process and Finished Product to be transferred by Sending Unit during Tech Transfer. 5
 - State the role of TOT agencies in commercialization of products. State functions of any one agency. 5
 - Write the role and responsibility of the Regulatory affairs department. 5
 - State the objectives and key elements of Total Quality management 5
 - Define OOS with a suitable example and discuss how to handle an OOS 5
 - Explain the term Quality and Discuss the key elements of ISO 9000 series. 5
 - Define the role and responsibilities of CDSCO 5
 - Draw and discuss in brief the CTD Triangle 5