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| **1** | What are the components of FMS? |  |  |
| **2** | What are the objectives of FMS? |  |  |
| **3** | What are the types of layout configuration in FMS? |  |  |
| **4** | How the FMS is classified based on level of flexibility? |  |  |
| **5** | Write a short note on Group Technology? |  |  |
| **6** | Explain various parts of programmable controllers |  |  |
| **7** | Define Types of cell designs |  |  |
| **8** | What is Cellular manufacturing |  |  |
| **9** | How to applicable FMS in artificial intelligence |  |  |
| **10** | How to achieve different types of flexibilities in FMS |  |  |
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| **Answer All the following questions. (5X10M=50Marks)** | |  |  |
| **11** | What is flexible manufacturing cell? With a neat sketch explain flexible cell |  |  |
| **12** | What are the benefits of FMS and explain the need of FMS in modern manufacturing environment |  |  |
| **13** | Write short notes on (i) machining centres (ii) head indexers. |  |  |
| **14** | Explain five categories of FMS layout for effective material handling in the system. |  |  |
| **15** | Discuss important factors to be considered for design of FMS. |  |  |
| **16** | Benefits of hierarchical structure of computers in manufacturing. |  |  |
| **17** | Explain the concept of part family in Group Technology |  |  |
| **18** | How part number assist traceability of parts, in group technology? |  |  |
| **19** | What are the various layout configurations of FMS? Explain with suitable applications |  |  |
| **20** | Explain dedicated FMS and random order FMS applied in manufacturing industry |  |  |
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| **1** | Define single product and single batch |  |  |
| **2** | What are the types of FMS? |  |  |
| **3** | What is the scope for FMS in manufacturing today? |  |  |
| **4** | What is an abstract model in FMS simulation? |  |  |
| **5** | What is the importance of databases in FMS |  |  |
| **6** | Where to Apply FMS Technology ? |  |  |
| **7** | What are the advantages of GT? |  |  |
| **8** | What is the role of group technology in FMS? |  |  |
| **9** | Write the Advantages of FMS |  |  |
| **10** | How is artificial intelligence applied in FMS? |  |  |
| **Part-B** | | | |
| **Answer All the following questions. (5X10M=50Marks)** | |  |  |
| **11** | Explain five categories of FMS layout for effective material handling in the system. |  |  |
| **12** | What is flexible manufacturing cell? With a neat sketch explain flexible cell |  |  |
| **13** | Explain different types of flexibility in manufacturing in FMS Concept |  |  |
| **14** | Discuss the factors to be considered while designing an FMS |  |  |
| **15** | Benefits of hierarchical structure of computers in manufacturing |  |  |
| **16** | Discuss important factors to be considered for design of FMS. |  |  |
| **17** | State the merits of GT? Explain composite part concept followed in group technology |  |  |
| **18** | What are the limitations of group technology? Explain the relative benefits of Optiz system and multiclass coding system followed in GT. |  |  |
| **19** | a) What are the characteristics of networks for communication in manufacturing environments?  b) Discuss computer network topologies applied in manufacturing. |  |  |
| **20** | Write FMS application in machining, sheet metal fabrication, prismatic component production. |  |  |

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| **1** | Define FMM ,FMC And FMG | |  |  | |
| **2** | Define Production Planning and control | |  |  | |
| **3** | What are the Benefits of FMS | |  |  | |
| **4** | Define Components of FMS systems | |  |  | |
| **5** | Write Five Types of FMS Layouts | |  |  | |
| **6** | What are the phases of shop floor control | |  |  | |
| **7** | Write Benefits of Group Technology | |  |  | |
| **8** | State the Code structures used in GT application | |  |  | |
| **9** | Define Computer process monitoring | |  |  | |
| **10** | What are the Types of data collection systems | |  |  | |
| **Part-B** | | | | | |  | **L1** |
| **Answer All the following questions. (5X10M=50Marks)** | | |  | |  |
| **11** | | What are the benefits of FMS and explain the need of FMS in modern manufacturing environment |  | |  |
| **12** | | Define Planning. Why strategy for proper Planning is required in any facility operation. |  | |  |
| **13** | | What are the benefits of FMS and explain the need of FMS in modern manufacturing environment |  | |  |
| **14** | | Explain different types of flexibility in manufacturing in FMS Concept |  | |  |
| **15** | | Discuss need, scope and limitations of deployment of karban system in flexible manufacturing system and its pertinent implementation issues. |  | |  |
| **16** | | What are the planning and implementation issues of flexible manufacturing system installation in manufacturing or assembly environment? |  | |  |
| **17** | | What are the limitations of group technology? Explain the relative benefits of Optiz system and multiclass coding system followed in GT. |  | |  |
| **18** | | Explain the merits of GT? Explain composite part concept followed in group technology. |  | |  |
| **19** | | What are the various layout configurations of FMS? Explain with suitable applications |  | |  |
| **20** | | a) Explain network simulation in FMS.  b) What are the various approaches to modelling for FMS |  | |  |

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| **1** | What are the objectives of FMS? |  |  |
| **2** | What are the types of flexibility in FMS |  |  |
| **3** | List out any two advantages and disadvantages of FMS implementation |  |  |
| **4** | Define hierarchy of computer control |  |  |
| **5** | What are the types of layout configuration in FMS? |  |  |
| **6** | How the FMS is classified based on level of flexibility? |  |  |
| **7** | Write the GT benefits |  |  |
| **8** | Write the AGVS applications. |  |  |
| **9** | Write FMS Applications |  |  |
| **10** | Define FMS database systems |  |  |
| **Part-B** | | | |
| **Answer All the following questions. (5X10M=50Marks)** | |  |  |
| **11** | Discuss strategic issues in flexible automation and explain benefits of FMS |  |  |
| **12** | Define Planning. Why strategy for proper Planning is required in any facility operation.? |  |  |
| **13** | Discuss the steps involved in selection of simulation software |  |  |
| **14** | Discuss the need for databases in FMS and explain the data base retrieval procedure deployed in FMS |  |  |
| **15** | Discuss important factors to be considered for design of FMS. |  |  |
| **16** | Benefits of hierarchical structure of computers in manufacturing. |  |  |
| **17** | Explain the concept of part family in Group Technology. |  |  |
| **18** | Why production flow analysis is required in implementation of GT? Explain data collection and sortation of process routing steps in product flow analysis. |  |  |
| **19** | What are the various approaches to modelling for FMS  Write about design philosophy and characteristics for future. |  |  |
| **20** | What are the various layout configurations of FMS? Explain with suitable applications |  |  |
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