



NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR

DEPARTMENT OF MECHANICAL ENGINEERING

6th Semester (3rd Year), Mechanical Engineering

Subject: MACHINE DESIGN (MEC 602)

MECHANICAL ENGINEERING

MEC602-MACHINE DESIGN

DEPARTMENT OF MECHANICAL ENGINEERING

B.Tech (6th Semester Major Examination)

Course: Machine Design-II

Maximum Marks: 40

Problem: Power of 3.75kW is to be transmitted to a gear drive for reciprocating compressor, pinion rotates at 1200 rpm. The gear drive should be 20° full depth. For the above details, answer the following.

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| Q1. Module for the design is. | 3 |
| | CO3 |
| Q2. For the details provided in Q.1 No. of teeth of pinion (N_p) is equal to | 3 |
| | CO2 |
| Q3. For the details provided in Q.1 No. of teeth on gear (N_g) is equal to | 2 |
| | CO2 |
| Q4. For the details provided in Q.1 and for the out speed of gear 390 rpm. True Velocity Ratio is equal to | 7 |
| | CO1 |
| Q5. For the details provided in Q.1 Diameter of pitch for pinion is equal to | 2 |
| | CO1 |
| Q6. For the details provided in Q.1 Diameter of pitch of gear is equal to | 7 |
| | CO3 |
| Q7. For the details provided in Q.1 Central distance is equal to | 7 |
| | CO2 |
| Q8. For the details provided in Q.1 Pitch Line Velocity is equal to | 7 |
| | CO2 |
| Q9. For the details provided in Q.1 Tangential Load W_t is equal to | 2 |
| | CO4 |

Total=Score * Weightage(3)for Q1, Q2, and Score * Weightage(3) for Q4, Q6, Q7,Q8 and Score * Weightage(2) for Q5, Q9

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and processing, thereby improving efficiency and reducing the risk of errors.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure throughout its lifecycle.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of a proactive approach to data management and the need for continuous monitoring and improvement of data practices.

