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School of Engineering
B.TECH Mechanical Engineering
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem VII - BME046 - Total Quality Management

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Dissect the Juran's quality trilogy and explain the role of each component in achieving quality objectives. K1 (2)
- 2) Identify and analyze the relationships between process capability analysis, control charts, and quality improvement methodologies. K2 (4)
- 3) Name one type of destructive inspection method used in quality control. K2 (6)
- 4) Summarize the role of inspection and measurement in quality control for manufacturing processes. K3 (9)
- 5) Evaluate the importance of failure data analysis in making informed decisions about system reliability and maintenance strategies. K3 (9)
- 6) Develop a reliability testing procedure for a new product to estimate its mean time between failure (MTBF). K5 (10)
- 7) Evaluate the impact of failure rate on the reliability of a system and propose measures to improve reliability based on the evaluation. K4 (12)
- 8) Apply the principles of process capability analysis to assess the ability of a manufacturing process to meet customer specifications. K5 (15)
- 9) Predict the failure rate of a system based on given reliability data and develop strategies to extend the system's useful life. K5 (15)
- 10) Analyze the impact of sample size on the effectiveness of control charts for variables. K6 (18)