

**M. TECH. IN PRINTING ENGINEERING AND GRAPHIC COMMUNICATION
FIRST YEAR 2ND SEMESTER EXAMINATION 2025
TOTAL PRODUCTIVE MAINTENANCE IN PRINTING**

Time: 03 hrs

Full Marks: 100

Answer any five

1. Define Total Productive Maintenance (TPM). What is its main objective? What are the benefits of effective TPM?

5+8+7=20

2. a) Explain different types of maintenance techniques.
b) TPM is aimed at eliminating the six big losses – What are the six big losses? Explain.

10+10=20

3. What are the main pillars of TPM which are mostly focused on proactive and preventive techniques for improving equipment reliability? Explain the steps involved by the implementation of TPM in an organization.

20

4. a) What is maintainability? How it is related with 'Mean time to repair (MTTR)'?
b) Define 'Availability'. Distinguish between Inherent Availability, Achieved Availability and Operational Availability.

10+10=20

5. a) Explain Downtime. What are the types of downtime?
b) What is Risk Based Maintenance (RBM) methodology? How can you assess the risk by using RBM strategy?

10+10=20

6. What are the interactively linked modules involved with the RBM methodology? Explain the modules which consist of different steps involved to reduce the risk through maintenance planning.

20

7. Define Overall Equipment Effectiveness (OEE). Define and explain the factors associated with OEE. How these factors are related with OEE.

6+8+6=20