

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024****Subject Code:3162509****Date:20-05-2024****Subject Name:Plant Maintenance and Safety Engineering****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Explain equipment downtime analysis.	03
	(b) State the difference between preventive and predictive maintenance.	04
	(c) List the steps and procedure for successful implementation of TPM in industry.	07
Q.2	(a) What are the disadvantages of breakdown maintenance?	03
	(b) List the criteria for Selection of Condition Monitoring Techniques.	04
	(c) Explain maintenance planning and scheduling with suitable example.	07
	OR	
	(c) List various job scheduling techniques and explain any one in details with suitable example.	07
Q.3	(a) Why maintenance record keeping is necessary?	03
	(b) Prepare sample machine history card for CNC Lathe machine.	04
	(c) Write brief note on : Use of computers in maintenance management.	07
	OR	
Q.3	(a) List the benefits and applications of Condition Monitoring.	03
	(b) List possible causes for vibration in machine. How it is measured?	04
	(c) Discuss Total Productive Maintenance in detail.	07
Q.4	(a) Explain Codification of Breakdowns.	03
	(b) Enlist various Job sequencing methods and explain any one.	04
	(c) Prepare the route card for sand casting process.	07
	OR	
Q.4	(a) What is Incident Recall Technique (IRT)?	03
	(b) Prepare safety policy for the welding shop.	04
	(c) Explain the concept of 'Reliability centered maintenance' in detail.	07
Q.5	(a) How accidents are recorded and investigated?	03
	(b) How to measuring work injury?	04
	(c) List the unsafe act of workers and unsafe conditions in the shop floor in details.	07
	OR	
Q.5	(a) Explain the calculation of accident indices.	03
	(b) What do you mean by disaster control? Explain in details.	04
	(c) Safety Engineering helps in improving productivity of an organization - Justify with suitable example.	07