Question Paper Code: U7901

B.E. / B.Tech. DEGREE EXAMINATION, APRIL/MAY 2025

Sixth Semester

Mechanical Engineering

	21	MEV901 MAINTE	ENANCE ENGINEERI	ING			
		(Reg	ulations 2021)				
Dura	ation: Three hours			Maximum: 100 Ma	arks		
		Answer A	LL Questions				
	PART A - $(10 \times 1 = 10 \text{ Marks})$						
1.	eliminates breakdown	_	ar period planned ma	aintenance which	CO1- U		
	(a) Routine	(b) Preventive	(c) corrective	(d) Operation			
2.	. Maintenance cost cor	nsists of the followin	g action				
(a)Replacement of		e components	(b)Repair of comp	oonents			
	(c)Service of Compos	nents	(d)All of the abov	e			
3.	With the increase in maintenance cost will		re maintenance, the b	reakdown	CO1- U		
	(a) Decrease		(b) Increase at faster rate				
	(c) No charge		(d) Increase				
4.	. Casual Maintenance of a machine is called				CO1- U		
	(a) Routine maintena	nce	(b)Preventive ma	intenance			
	(c)Unscheduled maintenance		(d) Periodic maintenance				
5.	Condition monitoring	g is the basic for	maintenance.		CO1- U		
	(a) Shut down	(b) Preventive	(c) Predictive	(d) Break down			
6.	Which condition morproblems with bearing	•	is not used to identify		CO1- U		
	(a) Vibration analysis	5	(b) Shock pulse	method			
	(c) Themography		(d) Acoustic leak	tage monitoring			

7.	Wh	y failure occurs	in bearing?		C	O1- U
	(a) Proper bearing selection		(b) Improper lubrication	(b) Improper lubrication		
	(c) Proper mounting		(d) Sufficient lubricant q	(d) Sufficient lubricant quantity		
8.	The	general failure	mode in the gears ar	re	C	O1- U
	(a) I	Fatigue	(b) Wear	(c) Stress rupture	(d) All of the a	bove
9.	Forl	k lift truck is use	ed for		C	O1- U
	(a) lifting and lowering		(b) vertical transportation	n		
	(c) both 'a' and 'b'		(d) None of the above			
10.	The	following is use	ed to transport mater	rials having flat bottoms	C	O1- U
	(a) Belt conveyor		(b) Roller conveyor			
	(c) Chain conveyor		(d) None of the above			
			PART – B	$(5 \times 2 = 10 \text{ Marks})$		
11.	De	fine failure rate?	•		C	O1- U
12.	What is meant by Reliability Centered Mainte			Maintenance	C	O1- U
13.	3. Name some of the methods of leakage monitoring			nonitoring	C	O1- U
14.	List some of the inspection performed on gears					O1- U
15.	5. List the repair methods of conveyors.			C	O1- U	
			PART –	C (5 x 16= 80 Marks)		
16.	(a)	-	ndamental principle proving industrial e Or	•	nd CO1 U	(16)
	(b)	-	lationship between naintenance (TPM	maintenance planning and tot I) in optimizing industri		(16)
17.	(a)		er lubrication plan industrial machines Or		nd CO2- App	(16)
	(b)		air and maintenance and safe operation.	e system for railway engines	to CO2-App	(16)

18. (a) Utilize temperature-sensitive tapes and pistol thermometers to CO3-App (16) detect overheating issues in industrial motors and transformers.

Or

- (b) Utilize vibration analysis and thermal imaging methods to detect CO3- App (16) potential failures in high-speed industrial gearboxes.
- 19. (a) Organize a maintenance plan that integrates logical fault location CO4- App (16) methods for diagnosing failures in industrial gear systems.

Or

- (b) Apply engineering techniques to refurbish damaged gear teeth and CO4- App (16) extend the service life of industrial gearboxes.
- 20. (a) Organize an effective maintenance strategy using job order CO5-App (16) systems for repairing automated guided vehicles (AGVs) in warehouses.

Or

(b) Develop a step-by-step repair methodology for fixing electrical CO5- App (16) and mechanical issues in industrial lifting equipment.