

Total No. of Questions: 6

Total No. of Printed Pages:2

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec-2023
AU3EL10 Tractor & Farm Equipments

Programme: B.Tech.

Branch/Specialisation: AU

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. The application of engineering and technology in agricultural operations to do a better way to improve productivity- **1**
(a) Custom hiring (b) Farm mechanization
(c) Farm machinery (d) All of these
- ii. One hp is equal to- **1**
(a) 246 watts (b) 250 watts
(c) 746 watts (d) 1000 watts
- iii. In tractor the complete path of power from the engine to the wheel is called- **1**
(a) Power train (b) Power wheel
(c) Both (a) & (b) (d) None of these
- iv. Maximum torque in a tractor is generated at- **1**
(a) Rated rpm (b) Less than rated rpm
(c) Rated hp (d) Maximum idling
- v. A pump, which supplies the fuel to different cylinder or multi cylinder engine is- **1**
(a) Centrifugal pump (b) Oil pump
(c) Fuel injection pump (d) None of these
- vi. How many types of soil are found in India? **1**
(a) 10 (b) 8 (c) 9 (d) 12
- vii. Maintenance consists of the following action(s)- **1**
(a) Replace of component (b) Repair of component
(c) Service of component (d) All of these

[2]

- viii. Selection and use of farm machinery mainly depends upon- **1**
(a) Power source (b) Land holding
(c) Soil type (d) All of these
- ix. Red soil is rich in which mineral? **1**
(a) Magnesium (b) Iron
(c) Phosphorous (d) Aluminum
- x. Belt of an electric motor is broken, it needs- **1**
(a) Corrective maintenance (b) Scheduled maintenance
(c) Preventive maintenance (d) Timely maintenance
- Q.2 i. What is soil machinery? **2**
ii. Explain the retarders system of heavy-duty track. **3**
iii. Explain the hydraulic system of earth mover with it's component. **5**
- OR iv. Mention the various types of earth moving equipment and their uses. **5**
- Q.3 i. Explain the hydraulic pumps. **2**
ii. Write short note on hydraulic control valves and relief valves. **8**
- OR iii. Explain the working of hydraulic motor. **8**
- Q.4 i. Explain the types and purpose of tractor. **3**
ii. Explain the power steering system of tractor. **7**
- OR iii. Describe the various components used in tractors and their special features along with the aid of neat sketch of the layout of the tractors. **7**
- Q.5 i. What is meaning of earth movers? **4**
ii. Enlist the various types of maintenance schedules. **6**
- OR iii. Describe the various method used for the selection of earth moving equipments. **6**
- Q.6 Write a short note on any two: **5**
i. Safety methods of earth moving equipment **5**
ii. Attachment for earth moving equipment **5**
iii. Life safeguarding equipment **5**

Marking Scheme

AU3EL10 Tractor & Farm Equipments

Q.1	i.	The application of engineering and technology in agricultural operations to do a better way to improve productivity-		1
		(b) Farm mechanization		
	ii.	One hp is equal to-		1
		(c) 746 watts		
	iii.	In tractor the complete path of power from the engine to the wheel is called-		1
		(a) Power train		
	iv.	Maximum torque in a tractor is generated at-		1
		(b) Less than rated rpm		
	v.	A pump, which supplies the fuel to different cylinder or multi cylinder engine is-		1
		(c) Fuel injection pump		
	vi.	How many types of soil are found in India?		1
		(b) 8		
	vii.	Maintenance consists of the following action(s)-		1
		(d) All of these		
	viii.	Selection and use of farm machinery mainly depends upon-		1
		(d) All of these		
	ix.	Red soil is rich in which mineral?		1
		(b) Iron		
	x.	Belt of an electric motor is broken, it needs-		1
		(a) Corrective maintenance		
Q.2	i.	Define soil machinery		2
	ii.	Retarders system of heavy-duty track.		3
	iii.	Explanation the hydraulic system of earth mover	3 marks	5
		it's component	2 marks	
OR	iv.	Various types of earth moving equipment	3 marks	5
		Their uses.	2 marks	
Q.3	i.	Explanation the hydraulic pumps.		2

	ii.	Hydraulic control valves	4 marks	8
		Relief valves.	4 marks	
OR	iii.	Explanation the working of hydraulic motor	4 marks	8
		Sketch	4 marks	
Q.4	i.	Types of tractor	1.5 marks	3
		Purpose of tractor.	1.5 marks	
	ii.	Power steering system of tractor.		7
		Explanation	4 marks	
		Sketch	3 marks	
OR	iii.	Various components used in tractors	2 marks	7
		Their special features	3 marks	
		Sketch	2 marks	
Q.5	i.	Meaning of earth movers		4
	ii.	Types of maintenance schedules.		6
OR	iii.	Method used for the selection of earth moving equipments.		6
		Explanation		
Q.6		Write a short note on any two:		
	i.	Safety methods of earth moving equipment		5
		Explanation		
	ii.	Attachment for earth moving equipment		5
		Explanation		
	iii.	Life safeguarding equipment		5
		Explanation		
