



Enrollment No.....

Faculty of Engineering
End Sem (Odd) Examination Dec-2019
AU3EL10 Tractor and Farm Equipment
 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.

- Q.1 i. Turbocharger is driven by the power of **1**
 (a) Engine (b) Exhaust gas
 (c) Battery (d) All of these
- ii. Stator/Reactor is used in **1**
 (a) Torque converter (b) Fluid coupling
 (c) Both (a) and (b) (d) None of these
- iii. A pressure relief valve is a type of **1**
 (a) Safety valve (b) Flow control valve
 (c) Both (a) and (b) (d) None of these
- iv. Viscous resistance offered by an oil for being used for hydraulic application should be **1**
 (a) Less (b) Very less (c) High (d) Very high
- v. Brakes work on the principle of **1**
 (a) Kinetic friction (b) Viscous friction
 (c) Static friction (d) None of these
- vi. Tire which uses water as its working medium are **1**
 (a) Pneumatic tire (b) Radial tire
 (c) Cross-ply tire (d) Solid tire
- vii. Preventive maintenance is a type of **1**
 (a) Scheduled maintenance (b) Fail safe maintenance
 (c) Both (a) and (b) (d) None of these
- viii. Purpose of earth moving equipment are **1**
 (a) Construction (b) Move a part of earth
 (c) Excavation (d) All of these
- ix. Trencher is an attachment for earth moving equipment which is used for **1**
 (a) Digging (b) Rolling
 (c) Both (a) and (b) (d) None of these

- x. Tail-gating is a safety measure which relates with **1**
 (a) Negligence of driver (b) Maintaining the safe distance
 (c) Over speeding (d) All of these
- Q.2 i. What is the purpose of automatic timer? Write its two advantages. **2**
 ii. Define after cooler. Why it is necessary. **3**
 iii. With neat sketch explain the working of torque converter. **5**
 OR iv. With neat sketch explain the working of turbocharger. **5**
- Q.3 i. Brief about any three basic components of hydraulic system. **3**
 ii. With neat sketch explain construction and working of a gear pump **7**
 OR iii. Define hydraulic cylinder. With neat sketch explain construction and working of hydraulic cylinder **7**
- Q.4 i. What is the purpose of final drive? Write any two type of it. **3**
 ii. With neat sketch explain construction and working of hydraulic power steering. **7**
 OR iii. With neat sketch explain construction and working of hydraulic brakes. **7**
- Q.5 i. Brief about scheduled maintenance, its purpose and any four advantages. **4**
 ii. Write three method of selection of earth moving equipment based on nature of operation. **6**
 OR iii. Brief about any three basic rules of matching machine. **6**
- Q.6 Attempt any two:
 i. Brief about any five precautions to avoid accidents **5**
 ii. With neat sketch explain working of any one life safeguarding equipment. **5**
 iii. With neat sketch explain working of anyone attachment used with earth moving equipment. **5**

Marking Scheme
AU3EL10 Tractor and Farm Equipment

Q.1	i.	Turbocharger is driven by the power of (b) Exhaust gas	1
	ii.	Stator/Reactor is used in (a) Torque converter	1
	iii.	A pressure relief valve is a type of (c) Both (a) and (b)	1
	iv.	Viscous resistance offered by an oil for being used for hydraulic application should be (a) Less	1
	v.	Brakes work on the principle of (c) Static friction	1
	vi.	Tire which uses water as its working medium are (d) Solid tire	1
	vii.	Preventive maintenance is a type of (c) Both (a) and (b)	1
	viii.	Purpose of earth moving equipment are (d) All of these	1
	ix.	Trencher is an attachment for earth moving equipment which is used for (a) Digging	1
	x.	Tail-gating is a safety measure which relates with (b) Maintaining the safe distance	1
Q.2	i.	Purpose of automatic timer Its two advantages 0.5 mark for each (0.5 mark * 2)	2
	ii.	Definition of cooler Necessity	3
	iii.	Working of torque converter. Sketch	5
	iv.	Working of turbocharger. Sketch	5
OR			
Q.3	i.	Any three basic components of hydraulic system 1 mark for each component	3
	ii.	Working of a gear pump	7

OR	iii.	Construction	2 marks	7
		Sketch	3 marks	
		Definition of hydraulic cylinder	1 mark	
		Sketch	2 marks	
		Construction	2 marks	
Q.4	i.	Working	2 marks	3
		Purpose of final drive	1 mark	
		Its two types 1 mark for each (1 mark * 2)	2 marks	
		Hydraulic power steering.	7	
		Sketch	3 marks	
OR	iii.	Construction	2 marks	7
		Working	2 marks	
		Hydraulic brakes	7	
		Sketch	3 marks	
		Construction	2 marks	
Q.5	i.	Working	2 marks	4
		Briefing of scheduled maintenance	1 mark	
		Its purpose	1 mark	
		Any four advantages	6	
		0.5 mark for each (0.5 mark * 4)	2 marks	
OR	iii.	Three method of selection of earth moving equipment	6	6
		2 marks for each method	(2 marks * 3)	
		Any three basic rules of matching machine.	6	
		2 marks for each rule	(2 marks * 3)	
Q.6	i.	Attempt any two:		5
		Any five precautions to avoid accidents	5	
		1 mark for each precaution	(1 mark * 5)	
		Working of any one life safeguarding equipment	5	
		Sketch	2 marks	
	iii.	Working of anyone attachment	5	5
		Sketch	2 marks	
