

Enrollment No.....



Faculty of Engineering
End Sem (Even) Examination May-2019
AU3EL11 Two & Three Wheeler Technology
 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. Two wheelers are equipped with **1**
 (a) Petrol Engine (b) Diesel Engine
 (c) Both (a) and (b) (d) None of these
- ii. This motor bike is preferred for city riding **1**
 (a) Cruiser (b) Commuter (c) Dirt Bike (d) Sports Bike
- iii. Manually shifted scooters are equipped with **1**
 (a) Multiplate Clutch (b) Centrifugal Clutch
 (c) Single Plate clutch (d) None of these
- iv. Main purpose of providing the primary drive in 2-wheeler is **1**
 (a) Speed Reduction (b) Torque Multiplication
 (c) Speed Multiplication (d) None of these
- v. The angle between the vertical axis of tyre and Steering axis is **1**
 (a) Trail (b) Caster (c) Toe (d) None of these
- vi. Bikes suspension usually have **1**
 (a) Leaf spring (b) Air spring
 (c) Coil spring (d) All of these
- vii. Neutral indicator light denotes **1**
 (a) Engine ON
 (b) Engine OFF
 (c) Transmission is in Neutral
 (d) None of these
- viii. Which of the component doesn't belong to ignition system? **1**
 (a) Gearbox (b) Coil (c) Battery (d) Spark Plug
- ix. 2 & 3-Wheeler are generally equipped with **1**
 (a) Dry Battery (b) Lead acid Battery
 (c) Both (a) and (b) (d) None of these

- x. Battery capacity can be measured using **1**
 (a) Cold cranking ampere rating
 (b) Reserve capacity rating
 (c) Ampere-hour rating
 (d) All of these

- Q.2 i. Write any four differences between mopeds and scooter. **2**
 ii. Brief about any three types of bike. **3**
 iii. What is the purpose of 3-wheeler? Write the classification of 3-wheeler based on engine, fuel used, wheel arrangement and use. **5**
 OR iv. Briefly explain about any five basic systems used to build a 2-wheeler. **5**

- Q.3 i. Define primary reduction. Also mention any two type of it. Why it is necessary in 2-wheelers? **3**
 ii. With neat sketch, explain construction and working of multiplate clutch. **7**
 OR iii. With neat sketch explain construction and working of sequential gearbox. **7**

- Q.4 i. Brief about any two types of handlebar used in 2 wheelers. **2**
 ii. Define Trail. With the help of neat sketch explain its effect. How mechanical trail is different from ground trail? **8**
 OR iii. Why suspension system is necessary? With neat sketch explain construction and working of shock absorber. **8**

- Q.5 i. Write the function of ignition system. Mention any 2 types of it. **2**
 ii. Name any three types of indicators and their function. **3**
 iii. With neat sketch explain the working of battery ignition system. **5**
 OR iv. Brief about panel meter with diagram. mention the name and function of any 3 instruments of panel meter. **5**

- Q.6 Attempt any two:
 i. Briefly explain working of charging system with help of circuit diagram. **5**
 ii. With neat diagram brief about the construction of a battery. **5**
 iii. With the help of circuit diagram explain working of electric horn. **5**

P.T.O.

Marking Scheme
AU3EL11 Two & Three Wheeler Technology

Q.1	i.	Two wheelers are equipped with (c) Both (a) and (b)	1		ii.	Multiplate clutch Diagram Construction Working	3 marks 2 marks 2 marks	7
	ii.	This motor bike is preferred for city riding (b) Commuter	1		OR	iii.	Sequential gearbox. Diagram Construction Working	7
	iii.	Manually shifted scooters are equipped with (a) Multiplate Clutch	1					
	iv.	Main purpose of providing the primary drive in 2-wheeler is (a) Speed Reduction	1		Q.4	i.	Any two types of handlebar used in 2 wheelers. 1 mark for each type (1 mark * 2)	2
	v.	The angle between the vertical axis of tyre and Steering axis is (b) Caster	1			ii.	Trail and its effect and mechanical trail is different from ground trail Definition Diagram Effect Differences	8
	vi.	Bikes suspension usually have (c) Coil spring	1		OR	iii.	Suspension system is necessary Shock absorber Diagram Construction Working	8
	vii.	Neutral indicator light denotes (c) Transmission is in Neutral	1					
	viii.	Which of the component doesn't belong to ignition system? (a) Gearbox	1					
	ix.	2 & 3-Wheeler are generally equipped with (c) Both (a) and (b)	1		Q.5	i.	Function of ignition system Any 2 types of it.0.5 mark for each (0.5 mark * 2)	2
	x.	Battery capacity can be measured using (d) All of these	1			ii.	Any three types of indicators and their function. 1 mark for each (1 mark * 3)	3
Q.2	i.	Any four differences between mopeds and scooter. 0.5 mark for each difference (0.5 mark * 4)	2			iii.	Battery ignition system Diagram Working	5
	ii.	Any three types of bike. 1 mark for each type (1 mark * 3)	3		OR	iv.	Panel meter Briefing Diagram Any 3 instruments of panel meter. 1 mark for each (1 mark * 3)	5
	iii.	Purpose of 3-wheeler Classification of 3-wheeler based on engine, fuel used, wheel arrangement and use. 1 mark for each classification (1 mark * 4) 4 marks	5					
OR	iv.	Any five basic systems used to build a 2-wheeler. 1 mark for each system (1 mark * 5)	5					
Q.3	i.	Primary reduction definition Any two type 0.5 mark for each (0.5 mark * 2)	3		Q.6		Attempt any two:	
					i.	Charging system Circuit diagram Working	2 marks 3 marks	5

ii.	Construction of a battery	3 marks	5
	Diagram	2 marks	
iii.	Electric horn		5
	Circuit diagram	2 marks	
	Working	3 marks	
