Q. Code: 502125

Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2024

Fifth and Seventh Semester

AE18021 – TWO AND THREE WHEELER TECHNOLOGY

(Automobile Engineering)

(Regulation 2018/2018A)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Discuss and compare two stroke and four stroke engines with respect to construction, working and timing diagrams.	**3**
CO 2	Compare the different types of ignition and injection systems.	**3**
CO 3	Explore the important subsystems of two-wheeler and three-wheeler chassis.	**3**
CO 4	Compare the specification and salient features of different types of two wheelers and three wheelers.	**3**
CO 5	Acquire the requisite skills in the service and maintenance of two and three wheelers.	**3**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Draw port timing diagram.	**1**	**2**
2.	List out any four electric two wheeler manufacturers in India.	**1**	**2**
3.	What is the purpose of tapper needle in a carburetor?	**2**	**1**
4.	Draw an electrical circuit of an ignition system.	**2**	**2**
5.	Write are the advantages of multiplate clutch.	**3**	**2**
6.	What is meant by pneumatic trail?	**3**	**1**
7.	What is the purpose of cam in a mechanical braking system?	**4**	**2**
8.	What are the merits of radial ply tyre?	**4**	**1**
9.	Write a technical data of a two-wheeler which is manufactured in India.	**5**	**1**

10. Write the daily maintenance schedule of a three wheeler. **2 5**

PART- B (5 x 14 = 70 Marks)

		Marks	CO	RBT LEVEL
11. (a)	Discuss the merits and demerits of the two stroke as well as four stroke engine.	**(14)**	**1**	**3**
	(OR)			
(b)	Draw and discuss the various primary components of an electric vehicle which are not used in IC engine vehicle, with neat sketches.	**(14)**	**1**	**3**
12. (a)	Draw a layout of a system to ignite the air fuel mixture of an engine in which magneto coil as a primary ignition source.	**(14)**	**2**	**3**
	(OR)			
(b)	Draw and explain a starter motor mechanism. Label the various parts in it and explain the purpose of the components.	**(14)**	**2**	**3**
13. (a)	Explain the constructional details and working of commonly used clutch actuating systems (Any four) in a motorcycle power transmission system.	**(14)**	**3**	**3**
	(OR)			
(b)	Discuss about the constructional details and working of a speedometer used in three wheeler and compare it with digital speedometer.	**(14)**	**3**	**3**
14. (a)	Explain the constructional details of master cylinder piston and caliper piston used in a disc brake system. Analyze the diameter of the master cylinder and caliper piston.	**(14)**	**4**	**3**
	(OR)			
(b)	Why the wire wheel is used in two-wheeler? State the advantages and disadvantages of wheels such as spoke wheel, disc wheel and cast wheel.	**(14)**	**4**	**3**
15. (a)	What are the reasons for exhaust pollution in a two-wheeler as well as three wheeler? Briefly explain the various steps could be taken to reduce the pollution.	**(14)**	**5**	**3**
	(OR)			
(b)	Distinguish between various types of three wheeler with neat sketches.	**(14)**	**5**	**3**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Briefly explain the constructional details and working of any two types of two wheeler that are being sold by the manufactures in India.	**(10)**	**1**	**3**

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