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

SNS College of Technology, Coimbatore-35
(Autonomous)
B.E/B.Tech- Internal Assessment -I
Academic Year 2022-2023 (Even)
Sixth Semester
Mechanical Engineering
19MET303 – Design of Transmission Systems

A

Time: $1^{1/2}$ Hours **Maximum Marks: 50**

Answer All Questions

PART - A (5 x 2 = 10 Marks)

		CO	Blooms
1	State reasons for the V-belt drive being preferred to flat belt drives.	CO1	Und
2	Define velocity ratio	CO1	Rem
3	Define Law of Belting.	CO1	Und
4	Classify the drives	CO1	Und
5	How do you select the belt drive?	CO1	Ana

PART - B (13 x 2 = 26 Marks + 14 x 1 = 14 Marks)

				CO	Blooms
6	(a)	The transporter of a heat treatment furnace is driven a 4 KW, 1440 rpm, induction motor through a chain drive with a speed reduction ratio of 2.4. The transmission is horizontal with of lubrication. Rating is continuous with 3 shifts per day. Determine complete chain drive assuming simplex type and Centre distance of approximately 500 mm	13	CO1	Ana
		(or)			
	(b)	Design a V-belt drive to transmit 50 KW at 1440 rpm from an electric motor to a textile machine running 24 hrs a day. The speed of the machine shaft is 480 rpm.	13	CO1	Ana
7	(a)	It is required to select a flat belt drive for a fan running at 360 rpm. Which is driven by a 10kw, 1440 rpm motor. The belt drive is open type and space available for a centre distance of 2m approximately. The diameter of a driven pulley is 1000mm	13	CO1	Ana
		(or)			
	(b)	(i) Describe the types of belt materials (ii) Classify the drives	6 7	CO1 CO1	Rem Und

8	(a)	A 15 KW squirrel cage motor, 1250 rpm is driving a centrifugal pump at 550 rpm. The centrifugal pump is located at 700 mm from the motor. Design a chain drive	14	CO1	Ana
		(or)			
	(b)	Design a V-Belt drive to the following specifications Power to be transmitted = 7.5 kw Speed of driving wheel = 1440 rpm Speed of driven wheel = 400 rpm Diameter of driven wheel = 300 mm Diameter of driving wheel = 300 mm Centre distance = 1000 mm Service = 16 Hours/Day	14	CO1	Ana

CO – Course Outcome, Und- Understanding, Rem- Remembrance, App-Apply, Ana-Analyze, Eva-Evaluate, Cre-Create