TED (21) – 3035
REVISION 2021

QID :

Reg. No. ……..
Name : …….

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/ COMMERCIAL PRACTICE-NOVEMBER 2024

MECHANICAL ENGINEERING

Time: 3 hours

Maximum Marks: 75

PART A

I. Answer all the following questions in one word or sentence.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1	Relative density is the ratio of …….	M1.01	R
2	Find out the weight density of a fluid whose mass density is 1000kg/m^3	M1.04	A
3	Write about rotational flow of a fluid	M2.01	R
4	Point out two assumption of Bernoulli's theorem	M2.03	R
5	Write example for impulse water turbine	M3.02	R
6	Specific speed of turbine is ……..	M3.03	R
7	Ports are used in _____ stroke engine	M4.04	R
8	List out classification of IC engine	M4.02	R
9	……. Fuel is normally used in heavy duty vehicles	M4.03	R

PART B

II. Answer any Eight questions from the following

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1	Define the following terms a) Specific gravity b) Dynamic viscosity c) Absolute pressure	M1.01	U
2	A fluid of specific gravity 0.6 is flowing through a pipe with a pressure head of 40m. find out its internal pressure	M1.04	A
3	Explain the concept of continuity and write continuity equation	M2.03	U
4	A pipe of 40mm diameter is conveying water with a velocity of 2.5 m/s. find the loss of head at the entrance and exit of pipe (Take f= .005)	M2.04	A
5	Explain water power and brake power of water turbine	M3.02	U
6	Explain the components of a centrifugal pump with figure	M3.03	U
7	Explain the selection on KW rating of various pumps based on head	M3.04	U
8	Explain fire tube boiler	M4.01	U
9	Explain the working of steam turbine	M4.02	U
10	Compare SI engine and CI engine	M4.04	U

PART C

Answer all questions from the following. Each question carries seven marks
(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	Explain about inverted U-Tube manometer with figure	M 1.04	U
	OR		
IV.	A simple manometer containing mercury is used to measure the pressure of water flowing in a pipe line. The mercury level in the open tube is 60mm higher than that on left tube. If the height of water in the left tube is 50mm. determine the pressure in the pipe	M 1.04	A
V.	Explain the limitation and practical application of Bernoulli's theorem	M2.03	A
	OR		
VI.	Explain losses through a pipe, and express Chezy's and Darcy's formula	M2.04	U
VII.	Using simple figure , explain the working of a hydroelectric power plant	M3.02	U
	OR		
VIII.	Using simple figure , write about Francis turbine	M3.02	U
IX.	Explain the working of an air vessel	M3.03	U
	OR		
X.	Compare the types of water pumps	M3.03	U
XI.	Explain the working of impulse and reaction turbine	M4.02	U
	OR		
XII.	Explain fire tube boiler with a line sketch	M4.01	U
XIII.	With neat figure explain the working of 2 stroke petrol engine	M4.04	U
	OR		
XIV.	Distinguish two stroke and four stroke engine	M4.04	U

Name of Setter :

Signature with date :

Designation :

Name of Scrutinizer :

Signature with date :

Designation :