

Maharashtra Institute of Technology, Aurangabad

(An Autonomous Institute)

END SEMESTER EXAMINATION

Second Year B.Tech (PPE) – Feb/Mar-2023

Course Code: PPE202

Course Name: Polymer Testing

Duration: 2 Hrs

Max. Marks: 50

Date:

06 FEB 2023

Instructions:

- i) All questions are compulsory
 ii) Assume suitable data wherever necessary and clearly state it
 iii) Figures to right indicate full marks

Q. 1	Answer any five (Marks:10)	Marks	CO	BL	PI
a)	Define stress and tensile strength.	2	1	1	1.4.1
b)	What is destructive and non-destructive testing?	2	1	1	1.4.1
c)	Give the ASTM nos for compression strength, Vicat Softening Temperature, Dielectric strength and Refractive Index tests.	2	1	1	1.4.1
d)	Define Heat Deflection Temperature and Vicat Softening Temperature.	2	1	1	1.4.1
e)	Give the complete formula of specific gravity used for both powder and solid sample specimen.	2	1	1	1.4.1
f)	What is creep?	2	1	1	1.4.1
g)	What is the test sample size for tensile and Charpy impact test?	2	1	1	1.4.1
h)	What is test sample conditioning?	2	1	1	1.4.1
Q.2	What is Melt Flow Index? Explain the complete construction and working of MFI tester with neat sketch.	8	2	2	1.4.1
Q.3	Explain the effect of important testing parameters on test results of (Any two) a) Flexural strength test b) Heat Deflection Temperature test c) Solvent stress cracking resistance test	4*2=8	3	2	2.4.3
Q.4	Discuss the steps involved before starting and after the following test; (Any two) a) Arc resistance test b) Flammability test for rigid solid sample	4*2=8	4	3	2.4.3

	c) Compression strength test				
Q.5	<p>Answer any two;</p> <p>a) What is accelerated weathering test? Explain how Fluorescent UV Exposure of Plastics test is carried out?</p> <p>b) Describe both the electrical resistance test methods in detail.</p> <p>c) How tristimulus color evaluation is done?</p>	4*2=8	5	3	1.4.1
Q.6	<p>Answer any one;</p> <p>a) Explain the complete process of dilute solution viscosity determination for thermoplastics.</p> <p>b) What is Environment Solvent Cracking Resistance? How this test is carried out? Explain with suitable diagram.</p> <p>c) Define thermal conductivity. Describe Vicat Softening Temperature test process with suitable sketch</p>	8	2	2	1.4.1