PAPER ID-310774

Subject Code: KPE051

Roll No: | | | | | | | | | | | | | |

B. TECH
(SEM-V) THEORY EXAMINATION 2020-21
PLASTIC PRODUCT & MOULD DESIGN

Time: 3 Hours ***Total Marks: 100***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

Qno.	Question	Marks	CO
a.	What is Material selection process in product design?	2	
b.	What is the purpose of radii and fillet?	2	
c.	Define Hinges and types of hinges	2	
d.	Define Undercut and what are the types of undercut?	2	
e.	What is the purpose of Register Ring?	2	
f.	What type of article you will prefer for Tunnel gate?	2	
g.	What is delay action in split mould?	2	
h.	What are the main functions of a Parison Die-Head Unit?	2	
i.	Write the types of extrusion die according to direction of flow of melt.	2	
j.	What are the main requirements of extrusion die?	2	

SECTION B

2. Attempt any *three* of the following:

Qno.	Question	Marks	CO
a.	What is the importance of wall thickness in plastic product design? Give examples of product with uniform wall thickness.	10	
b.	Write the step by step procedure for plastic product design of chairs.	10	
c.	Explain in detail of feeding system for six cavity mould of bottle cap.	10	
d.	Explain with neat sketch of semi automatic positive type compression mould.	10	
e.	Explain the stages in extrusion die design procedure.	10	

SECTION C

3. Attempt any *one* part of the following:

Qno.	Question	Marks	CO
a.	Explain the following in detail: i) Rib, ii) Bosses, iii) Draft	10	
b.	What are the factors influencing shrinkage and sink marks in plastic product? Discuss in brief.	10	

4. Attempt any *one* part of the following:

a.	How to design a dynamically loaded plastic part? Discuss in brief and give some examples.	10	
b.	Write the type fasteners are used in plastic product and explain any three types of fasteners in details.	10	

5. Attempt any *one* part of the following:

a.	Explain various cooling system used for core and cavity of automatic injection mould.	10	
b.	Explain blade ejection and sleeve ejection in injection mould.	10	

6. Attempt any *one* part of the following:

a.	Discuss the finger cam actuation with neat sketch of split open and closed condition.	10	
b.	What are the factors in designing the bottle/ container for blow? What is parison programming? What are the functions of pinch off and Parison Die-Head Unit?	10	

7. Attempt any *one* part of the following:

a.	Explain the detail of extrusion die design for uPVC Pipe.	10	
b.	Explain the detail of extrusion die design for plastic sheet.	10	