



# MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

III SEMESTER B.TECH. MEDIA TECHNOLOGY

**MAKE-UP EXAMINATIONS, JAN 2023**

**SUBJECT: MATERIAL SCIENCE [MED 2154]**

**REVISED CREDIT SYSTEM**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

- ❖ Answer **all the** questions.
- ❖ Missing data may be suitable assumed.

<i>Qn no:</i>	<i>Question</i>	<i>M</i>	<i>CO</i>	<i>BTL</i>
1	Compare ball mill and three roll mill with neat diagrams.	3	2	1
2	With neat diagram, explain the process of manufacturing liquid ink.	3	2	2
3	With neat diagram, discuss various sections of Fourdrinier paper making machine.	4	1	2
4	Compare precipitation and quick-set drying mechanisms used for printing inks.	3	2	1
5	Discuss the factors to be considered while selecting colorant to formulate ink.	3	2	2
6	Discuss the features of 8 fibrous raw materials used for papermaking.	4	1	2
7	Explain the process of manufacturing glass. Discuss its advantages and applications.	3	4	2
8	Define set-off and its causes. Discuss various types of anti-set off compounds.	3	5	2
9	Discuss the sources of secondary fibre and criteria for them to be accepted for paper recycling.	4	1	2
10	With neat diagram, explain 3 test and their procedures used to determine grain direction of a paper.	3	1	2
11	With neat diagrams, explain the 2 varnish application systems.	3	5	2
12	Explain the procedures of testing emulsification and tackiness of an offset ink.	4	2	2
13	How many sheets of 45x58cm will be required for printing brochures of 10x13cm assuming that each brochure contains 8 pages?	3	1	3
14	Explain the 4 methods of purifying water. What are the advantages and disadvantages of using isopropyl alcohol in dampening solution?	3	3	2
15	Discuss the features of various types of dyes.	4	2	2