PAPER ID-421658

Subject Code: RME402

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

BTECH
(SEM IV) THEORY EXAMINATION 2021-22
MANUFACTURING SCIENCE & TECHNOLOGY-I

Time: 3 Hours ***Total Marks: 70***

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

SECTION A

1. Attempt *all* questions in brief. 2*7 = 14

a.	Discuss classification of manufacturing processes.
b.	Describe wire drawing.
c.	Recall deep drawing.
d.	Explain any two types of pattern.
e.	Discuss powder metallurgy.
f.	Define hot working.
g.	Describe die casting.

SECTION B

2. Attempt any *three* of the following: 7*3 = 21

a.	Tabulate the differences between hot working and cold working along with their advantages.
b.	Summarize extrusion and its types with a neat sketch.
c.	Compareblanking and piercing. Derivethe relationship between force applied by punch having flatface and that having shear.
d.	Summarize the various elements of a gating system using a neat sketch.
e.	Summarize the design considerations of powder metallurgy.

SECTION C

3. Attempt any *one* part of the following: 7*1 = 7

a.	Explain Von-Mises yield criteria and compare it with tresca's yield criteria.
b.	Derive the relation for the average pressure for forging of disc with sticking friction condition.

4. Attempt any *one* part of the following: 7*1 = 7

a.	Summarize the principle and mechanism of rolling process. Support with neat diagrams.
b.	Derive the relation for the maximum draft obtained in rolling process.

5. Attempt any *one* part of the following: 7*1 = 7

a.	Tabulate the differences between progressive and compound die. Support with neat diagrams.
b.	Summarize deep drawing and explain the defects in deep drawing operation.

6. Attempt any *one* part of the following: 7*1 = 7

a.	Summarize the types of moulding sand and describe brieflythe materials added to moulding sand to improve its properties.
b.	Conclude centrifugal casting along with a neat sketch and describevarious types of centrifugal casting methods.

7. Attempt any *one* part of the following: 7*1 = 7

a.	Illustrate electromagnetic forming and explain in detail, mention its advantages and limitations.
b.	Differentiate between electro-hydraulic forming and explosive forming. Support with neat diagrams.