Printed pages: 01 **Sub Code: NME-101**

Paper Id: | 4 | 0 | 4 | 0 | **Roll No:** | | | | | | | | | | |

B TECH
(SEM I) THEORY EXAMINATION 2017-18
BASIC MANUFACTURING PROCESSES

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

Notes: *Attempt all Sections. Assume any missing data.*

SECTION A

1. Attempt *all* questions in brief. **(2 x10 = 20)**

a. Define the term manufacturing.
b. Differentiate between production and productivity.
c. Write down the composition of high speed steel (HSS)
d. Define the term weldability.
e. Define machinability.
f. Write down the function of riser in casting.
g. Differentiate between blanking and punching
h. Write down the advantages of heat treatment.
i. Differentiate between drilling and boring.
j. Define forging**.**

SECTION B

2. Attempt any *three* of the following: **(10 x 3 = 30)**

a. Classify the engineering materials and also explain importance of materials on civilization.
b. What do you mean by tool steel? Also write down the composition, properties and application of different types of tool steel.
c. Explain the working principle of shaper with neat sketch.
d. Explain the principle of resistance welding. also write down their advantages and disadvantages of resistance welding.
e. With the help of neat sketch explain gating system.

SECTION C

3. Attempt any *ONE* of the following **(10x1=10)**

a. Define the following
(i) Stiffness
(ii) Toughness
(iii) Hardness
(iv) strength
b. Define Brass. Write down the composition and application of different types of brass.

4. Attempt any ONE of the following. **(10x1=10)**

a. With the help of neat sketch explain rolling. Also explain different types of rolling mill.
b. Explain the working principle of press with the help of neat sketch. Also write down the different press operation.

5. Attempt any *ONE* of the following. **(10x1=10)**

a. With the help of neat sketch explain the working principle of milling machine. Also differentiate between up milling and down milling.
b. Define gas welding. Also explain different types of flames in gas welding with their applications.

6. Attempt any ONE of the following. **(10x1=10)**

(a) What are the objectives of heat treatment? Also explain normalizing and annealing.
(b) What are the principles of plant lay out. Also differentiate between process and product lay out.

7. Write down the short notes on **any two** of the following **(5x2=10)**

a) Electroplating and galvanizing
b) Ceramics
c) Composite materials
d) Soldering and brazing.