(b) Describe the composition, properties and uses fo gun metal, duralumin, bell metal and brass.

(c) What is the significance of coating electrodes with flux in electric arc welding? Explain various power sources used in electric arc welding.

(d) Describe different types of layouts in brief with the help of suitable diagrams. Differentiate production and productivity.

(e) Describe with suitable diagram, the process of hot chamber die casting. How is it different from cold chamber die casting?

(f) How hot working is different from cold working? Write short note on galvanising process.

(g) Define the following with the help of neat sketches :

sprue, riser, core, core print, mould

—x—

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NME101/NME201/EME101/EME-201

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 199131

Roll No. | | | | | | | | | | |

B.Tech. (Semester-I)

SPL. THEORY EXAMINATION, 2014-15

BASIC MANUFACTURING PROCESSES

Time : 2 Hours] *[Total Marks : 50*

Note: Be precise and scientific in writing.

Section - A

1. Attempt all parts: 1×10=10

(a) Chromium is added to plain carbon steel to increase:

i) Toughness

ii) Resistance to corrosion

iii) Ductility

iv) Resistance to wear

(b) Define ceramic and composites.

(c) The filler material used in soldering is ..... alloy.

(d) The temperature used in nitriding is in the range of:

i) 950-1050°C

ii) 480-650°C

iii) 220-380°C

iv) 720-910°C

(e) Name any two materials which can be used as abrasives in grinding wheel.

(f) Differentiate between drop and press forging.

(g) Define formability

(h) Explain any two operations which can be performed on lathe machine.

(i) Explain any two advantages of die casting over sand casting.

(j) Differentiate between punching and blanking.

Section - B

2. Attempt any three parts of the following : 3×5=15

(a) Explain any three kinds of pattern. Explain any two pattern allowances.

(b) Explain with neat sketch working principle of following processes:

i) Rolling

ii) Extrusion

(c) Differentiate between shaper and planer. Explain basic components of shaper machine.

(d) Explain different case hardening processes.

(e) Classify the welding process. How fusion welding is different from solid state welding? Explain different types of flames used in gas welding.

Section - C

3. Attempt any five of the following : 5×5=25

(a) What is High Speed Steel? Write down its classification, properties and applications.