Total No. of Questions : 4]

SEAT No. :

PB70

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[6268]-265

S.E. (Mechanical / Automobile Engg.)/(Automation & Robotics Engineering) (Insem)

MANUFACTURING PROCESSES

(2019 Pattern) (Semester - IV) (202050)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Define Pattern. What are the various types of Pattern? **[7]**

b) A cylindrical riser must be for a sand casting mould. The size of steel casting is 75 mm × 125mm × 20mm. The previous observation has indicated that the total solidification time for casting is 90 sec. The cylindrical riser have (d/h) = 1. Find the size of riser so that its total solidification time is 120 sec. **[8]**

OR

Q2) a) Explain the various defects in casting with causes and remedies'. **[7]**

b) Explain with figure, construction and working of Cupola Furnace. **[8]**

Q3) a) Differentiate between hot working and cold working process. **[7]**

b) An aluminium strip 240 mm wide 18 mm thick is rolled to a thickness of 14 mm in one pass. The roll radius is 240 mm and roll rotates at 125 rpm. Calculate the roll force and power required for this operation if the aluminium has true stress of 78.44 N/mm^2 under unstrained condition and 242.35 N/mm^2 in maximum strained condition. **[8]**

OR

Q4) a) Difference between Open Die Forging and Closed Die Forging. **[7]**

b) Describe with neat sketch the operation of wire drawing process. **[8]**