Total No. of Questions : 6]

SEAT No. :

P70

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OCT. -16/BE/Insem. - 124
B.E. (Mechanical Engineering)
ADVANCED MANUFACTURING PROCESSES
(2012 Pattern) (Semester - I) (Elective - II)

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

Instructions to the candidates:

1) ***All questions are compulsory i.e. Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***
5) ***Use of electronic pocket calculator is allowed.***

Q1) a) List the factors to be considered while designing the forming rollersand also to achieve close dimensional tolerances, respectively during roll forming process. **[6]**

b) Write down any four points of comparison between flow forming process and spinning process. **[4]**

OR

Q2) a) Write down any two points of comparison with schematic of stand-off technique (Unconfined type) and contact technique (Confined type) explosive forming. **[6]**

b) State the process characteristics or parameters which affect the performance of Electro-hydraulic forming process. **[4]**

Q3) a) State the process parameters of friction stir welding (FSW) and explain in brief how they affect the performance of FSW? **[6]**

b) Write down the advantages and limitations of vacuum die casting process. **[4]**

OR

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Q4) a) Explain with schematic the principle and steps to be followed in squeeze casting process. **[6]**

b) The tool material employed in friction stir welding must be sufficiently strong, tough,and hard wearing at the welding temperature. Comment on the statement. **[4]**

Q5) a) With a schematic explain the working principle of shaped tube electrolytic machining. **[6]**

b) State the two points of differences between isotropic and anisotropic wet chemical etching process. **[4]**

OR

Q6) a) Higher material removal rate (MRR) as high as 10 times is obtained while grinding hard materials when using electro chemical grinding (ECG) process in comparison to conventional grinding. Comment on the statement. **[6]**

b) State the factors which affect the performance of laser-based heat treatment. **`[4]**

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