

Question Paper

Exam Date & Time: 16-Nov-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIENCES

III SEMESTER B.Sc EXAMINATION NOV 2018

MANUFACTURING PROCESS ENGG. [IME 232 - S2]

Marks: 100

Duration: 180 mins.

Answer 5 out of 8 questions.

Missing data if any, may be suitably assumed.

- 1) Explain with neat sketches two casting methods which are used to produce hollow object without the use of cores. (10)
 - 1A)
 - 1B) With a neat sketch explain Submerged arc welding process and its advantages. (10)
- 2) Name the different types of sand testing Method and explain any 2 type of sand testing methods. (10)
 - 2A)
 - 2B) A hole of 40 mm diameter and 50 mm depth is to be drilled in mild steel component. The cutting speed can be taken as 65 m/min and the feed rate as 0.25 mm/rev. Calculate the machining time. Explain Cutting Speed, Feed and Depth of Cut with respect to drilling machine. (10)
- 3) With a neat sketch explain the Radial drilling machine and compare with the sensitive drilling machine. (10)
 - 3A)
 - 3B) List the different types of lathe operation and explain any four operations. (10)
- 4) Explain the different types of shaping operations. (10)
 - 4A)
 - 4B) Calculate the index crank movement to divide the periphery of the job into 87 divisions using plate 2 of Brown and Sharp having 21, 23, 27, 29, 31, 33 holes by compound indexing method. (10)
- 5) List the steps of the data flow for the basic rapid prototyping process and with sketch explain the stereolithography technique. (10)
 - 5A)

- 5B) With neat sketch briefly explain the horizontal spindle surface grinding machine. (10)
- 6) Explain the Designation of grinding wheel and elaborate the condition of grading wheel W-A-46-K-5-V-BE. (10)
- 6A)
- 6B) With a neat sketch explain the nomenclature of Single point cutting tool and explain types of Rake Angles. (10)
- 7) Differentiate between the shaper and planer machine. And explain the various operations in shaper machine. (10)
- 7A)
- 7B) Explain the metal cutting and metal forming operation. (10)
- 8) Explain the properties advantages and disadvantages of Hot working of metal condition. (10)
- 8A)
- 8B) Classify the different types milling machine and explain Column and knee type milling machine. (10)

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