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Ex/Prod/T/312/2017(S)

B. Prod. E. Exam, 2017

(3-rd Yr., 1-st Sem., Supple.)

Mass Production Technology & Automation

Time:3 Hrs. Full Marks -100

Answer any 5 Q.s

1. a) Describe:
Thread Milling process, Sunderland method of cutting gears. 5+5
b) Explain each term with their meaning & examples:
Operation (or process), Manufacturing process, Job (or station), Tools (or tooling), Production System. 10
2. a) What are the different orders of automation? Explain each with examples. 10
b) What are the different types of jigs? Explain. 10
3. a) What are the chief factors, those influence the disposition of blanks on strip width? Explain each. 8
b) Write whether jigs, or, fixtures are needed for the following processes, citing reasons:
Drilling, Boring, Turning, Milling. 6
c) Describe a fly press, with a sketch. 3
d) What are the basic elements of an adaptive control loop? 3
4. a) Differentiate betn. the Capstan Lathe & Turret Lathe with description & neat sketches. 10
b) Write the differences between Transfer Moulding & Compression Moulding. 5
c) In order to determine the economic justification of any special tooling (jigs & fixtures), what are the factors, those must be considered? 5
5. a) Write short notes on:
Screw thread grinding process, Open flash method of moulding, Interchangeability. 5X3
b) What is generating? Write shortly about generation by rack. 2+3
6. a) Describe:
The Blow Moulding Process, Circular die rolling process (of producing screw threads). 5+5
b) What are the safety arrangements of power presses, that are considered while designing it? 4
c) How is the capacity of a fly press expressed? Is the expression misleading? 2
d) Describe the production of screw threads, by die heads. 4
7. a) Write short notes on:

The Gear Shaping Method, The Gear Hobbing Method, Automatic Gear Cutting Machine. 5X3

b) Write the differences between blanking & piercing. 5

8. Write the names of 2 prod. methods for producing each shape/feature of the following: Parts with sharp features, Square edge, Parts with cavities, Thin hollow shapes, Flat surfaces, Detailed surface features, Small holes, Tubular shapes, Openings in thin sheets, Curvature on thin sheets. 2X10