Question Paper

Exam Date & Time: 28-Dec-2019 (09:30 AM - 12:30 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIENCES
END SEMESTER THEORY EXAMINATIONS
NOVEMBER-2019
III SEMESTER B.Sc. (Applied Sciences) in Engg.
MANUFACTURING PROCESS ENGG. [IME 232]

Marks: 100 **Duration: 180 mins.**

Answer 5 out of 8 questions.

1) With a neat sketch explain the working of jolt-squeezing machine and its advantages. (10)

A)

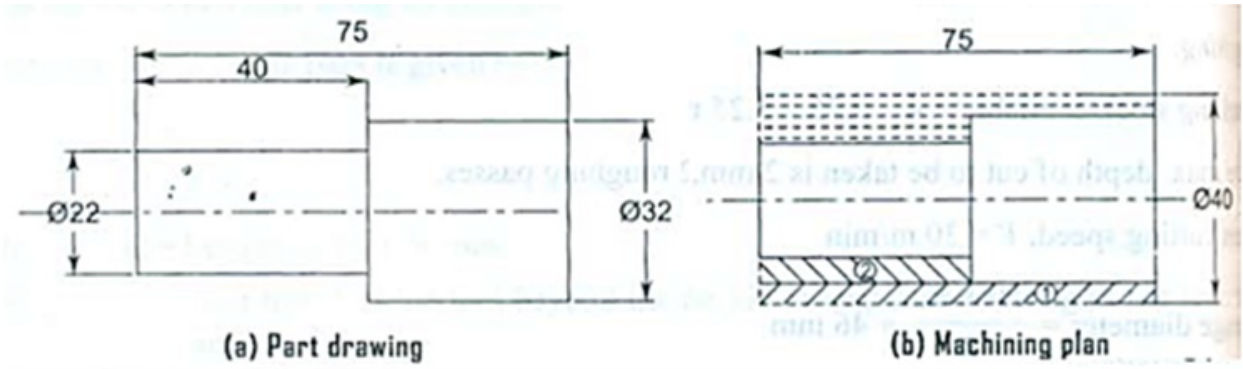
B) With a neat sketch explain the tungsten Inert Gas Welding and explain its advantages disadvantages. (10)

2) With a neat sketch explain electron beam process and its advantages. (10)

A)

B) Explain the Washer manufacturing by blanking and piercing operations. (10)

3) A) In Fig. below, a component to be machined from a stock of CRS C40 steel, 40mm in diameter and 75 mm long is shown. Calculate the machining times required for completing the part with (a) HSS tool, and (b) carbide tool. (10)
HSS tool
Assume cutting speed, V= 30 m/min, Feed rate, f = 0.30 mm/rev, Depth of cut = 2 mm
Carbide tool
Assume cutting speed, V = 145 m/min, Feed rate, f= 0.38 mm/rev, Depth of cut = 2 mm



B) List the different types of taper turning operations used in lathe and explain any 2 type. (10)

4) Classify the different types of drilling machine and with a neat sketch explain sensitive drilling machine. (10)

A)

B) Divide the periphery of the job into 69 divisions using standard index plate two of B & S type having 21,23,27,29,31.33 holes by compound indexing method. (10)

Plate No. 1	15	16	17	18	19	20
Plate No. 2	21	23	27	29	31	33
Plate No. 3	37	39	41	43	47	49

5)		List the different types of milling machine and explain any 2 operations.	(10)
	A)		
	B)	List the different type's surface grinding machines and With neat sketch briefly explain the surface grinding machine.	(10)
6)		List and explain the Selection of Grinding Wheels using constant factors.	(10)
	A)		
	B)	Differentiate the shaper and planer machine.	(10)
7)		With neat sketch explain the working principle of orthogonal and oblique cutting operation.	(10)
	A)		
	B)	Explain the shearing process with the help of die and punch.	(10)
8)		Draw a nomenclature of twist drill bit.	(10)
	A)		
	B)	Categorize the Rapid proto type technology and explain any one method.	(10)

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