GANPAT UNIVERSITY

B. TECH SEM- VI (MECHANICAL AND MECHATRONICS ENGINEERING)

REGULAR EXAMINATION– APRIL-JUNE 2017

2ME602 METAL FORMING & FABRICATION TECHNOLOGY

TIME: 3 HRS   **TOTAL MARKS: 60**

Instructions: (1) This Question paper has two sections. Attempt each section in separate answer book.

(2) Figures on right indicate marks.

(3) Be precise and to the point in answering the descriptive questions.

SECTION: I

Q.1	A	Explain different Types of Flames of Gas Welding with neat sketch.	(05)
	B	Explain principle of resistance welding. Write a note on seam welding with its industrial applications.	(05)

OR

Q.1	A	Write short notes on Leftward welding and Rightward welding.	(05)
	B	What is shielding gas? Enlist the welding process in which shielding gas is used and write down importance of shielding gas in them.	(05)

Q.2	A	Discuss TIG welding process with principle, advantages, and disadvantages with neat sketch.	(05)
	B	Explain electron beam welding process and state its advantages, limitations and applications.	(05)

OR

Q.2	A	Compare soldering, brazing and welding process by considering important parameters.	(06)
	B	Explain the principle of Arc-welding with neat sketch.	(04)

Q.3	A	Explain Friction stir welding process in detail.	(05)
	B	Compare inertia and forged welding process.	(05)

SECTION: II

Q.4 A Classification of rolling process. Explain working of cluster rolling mill with sketch. **(05)**

B Define Forging and discuss about open die forging and closed die forging with suitable sketches. **(05)**

OR

Q.4 A Explain with neat sketch the following operation. **(05)**

(i) Cogging (ii) Fullering (iii) Edging (iv) Upsetting (v) Swaging

B Enlist the assumption in analysis of rolling process and also derive the equation for the roll bite angle. **(05)**

Q.5 A Explain blow molding process stating its advantages, limitation and application. **(05)**

B (i) Calculate the dimension of punch and die when 30 mm hole has to be created in a sheet of 2 mm thickness consider the clearance to be 3%. **(05)**

(ii) If a 25 mm diameter blank has to be created from a sheet of 3 mm thickness. Calculate the dimensions of punch and die if the clearance is 2.5%.

OR

Q.5 A What is die set? Give the classification of dies. Explain progressive die, combination die and compound die with neat sketch. **(05)**

B With neat sketch explain punching, bending and performing. **(05)**

Q.6 A Define extrusion. Explain with sketch forward and backward extrusion process. **(05)**

B Differentiate between Hot and Cold working processes. **(05)**

---------------------------------------END OF PAPER---------------------------------------