Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester: VIII (Mechanical) Engineering

Regular Examination April – June 2016

2ME805/2: Welding Technology

Time: 3 Hours **Total Marks: 70**

Instruction:

1. Answer to the two sections must be written in separate answer books.
2. Figures to the right indicate full marks of the questions.
3. Draw neat sketch wherever necessary.

Section - I

Que. – 1

[A] Explain the various factors which have to be considered for welding power source. [6]

[B] What do you mean by Arc Blow? Discuss the causes and remedies for arc blow. [6]

OR

Que. – 1

[A] Describe the important design considerations for welded joints. [6]

[B] What do you mean by heat input in welding? Discuss the heat efficiency of various welding process. Suggest ideas for heat efficiency improvement in case of laser beam welding. [6]

Que. – 2

[A] Discuss heat affected zone in welded joint in detail along with neat sketch. [5]

[B] Enlist the various method utilize for destructive and nondestructive testing of weldments. Explain any of two processes in detail. [6]

OR

Que. – 2

[A] Enlist the various methods of applying welding? Explain arc motion devices used in welding process. [5]

[B] With neat sketch explain the meaning of 1G, 1F, 2G, 4F, 6G with respected to position of weld. [6]

Que. – 3 Answer the following: (Any Three)

[A] Explain the welding distortion and warpage in detail. [4]

[B] Why automation is required in welding process? Enlist & explain the work motion devices used in welding process. [4]

[C] What do you mean by Weldability? Discuss the process of joining dissimilar metals. [4]

[D] Discuss the following terms: [4]

1. Duty Cycle
2. Fillet Weld

Section – II

Que. – 4

[A] Explain the basic principal of arc welding? Explain how potential drop occurs during arc? [6]

[B] What do you mean by flux? Explain in detail the classification of flux used in shielded metal arc welding? [6]

OR

Que. – 4

[A] Describe principle, working and application of Submerged Arc Welding. What are the possible difficulties in it and how it can be dealt? [6]

[B] Why pulsed spray transfer mode is preferred over spray transfer in GMAW. Explain it from heat input point of view. [6]

Que. – 5

[A] Discuss the following terms: [6]

1. Constant current and constant voltage static characteristics
2. Forward and backward weld

[B] Describe the principle, working and applications of Explosive Welding process. [5]

OR

Que. – 5

[A] Describe principle, working and application of Electron Beam Welding. What are the possible problems/difficulties in it and how it can be dealt? [6]

[B] What do you mean by underwater welding and write where and when it is important? Describe wet-underwater welding process. [5]

Que. – 6

[A] Describe principle, working and application of Laser Beam Welding. What are the possible difficulties in it and how it can be dealt? [6]

[B] Explain friction stir welding process along with neat sketch. [6]

END OF PAPER