

GANPAT UNIVERSITY

B.TECH SEM.VI MECHATRONICS ENGINEERING

REGULAR EXAMINATION MAY/JUNE-2012

MC601- METAL FORMING & FABRICATION

TOTAL MARKS:-70

TIME:- 3 HOUR

INSTRUCTION:-

- i. Answer to the two sections must be written in separate answer books.
- ii. Figures to the right indicate full marks of the questions.
- iii. Draw neat sketch wherever necessary.
- iv. Assume suitable data if necessary.

Section - I

Q.1

[12]

- [A] Give a brief classification of the various fabrication processes.
- [B] Describe the types of flames obtained in an oxy-acetylene gas welding process giving their applications with neat sketch.
- [C] Explain the following terms:
1. Duty Cycle
 2. Straight polarity
 3. Crater
 4. Weldability

OR

Q.1

[12]

- [A] What is the fundamental feature that distinguishes fusion welding from solid-state welding?
- [B] Describe the "Shielded Metal Arc Welding" process in detail with neat sketch.
- [C] Name and Briefly explain the various equipment used in oxy-acetylene gas welding.

Q.2

- [A] Describe the "Electron Beam Welding" process with neat sketch. [4]
- [B] What are the kinds of joints that are normally employed for welding purposes? Give their sketches. [3]
- [C] Explain the resistance welding process giving the equipment, parameters controlled and the applications. [4]

OR

Q.2

- [A] Describe the "Plasma Arc Welding" process in detail with neat sketch. [4]
- [B] Explain any one solid state welding process in detail with neat sketch. [3]
- [C] What are the defects that are generally found in welding? Describe their cause and remedies. [4]

Q.3

Answer the following:

[12]

- [A] Differentiate the welding, brazing and soldering
- [B] Write a short note on "Thermit Welding."
- [C] Choose the correct answers:
1. Striking voltage as compared to voltage during arc welding is
 - (a) More
 - (b) Less
 - (c) Same
 - (d) Unpredictable
 2. Which of the following statement about "Projection welding" is correct?
 - (a) It is a multi-spot welding process.
 - (b) It is an arc welding process.
 - (c) It is a continuous spot welding process.
 - (d) It is a process used for joining round bars.
 - (e) None of above.
 3. Which of the following statement about 'submerged arc welding' is correct?
 - (a) Arc is submerged in molten metal bath.
 - (b) Arc is maintained under a blanket of granular flux.
 - (c) No arc will be there.
 - (d) None of the above.
 4. Metals that are easiest to weld in resistance welding are ones that have low resistivity since low resistivity assists in the flow of electric current:
 - (a) False
 - (b) True