

2112E077

BACHELOR OF VOCATION
Automotive Component Manufacturing
Subject: Advanced Welding Technology
Subject Code: LBME-104
Semester: Second
December 2021
Theory (External): 70 Marks
Time: 03 Hours

(5x10=50 Marks)

1. Explain the factors for the formation of the following weld defects and give remedies:
(a) Cracks
(b) Poor weld bead appearance
2. Describe the metallurgical effects in resistance welding cycle?
3. Write short notes on the following weld defects.
(a) Porosity
(b) Under cutting
(c) Cracks
4. Explain the working of Tungsten Inert Gas Welding (TIG) and their components
5. Write short notes on process parameters of Resistance Welding.
6. Why is cleaning of metal is important for successful welding? Explain?
7. How does the spot welding differ from roll spot welding and projection welding?
8. Explain in detail the causes and remedies for overlapping in welds?

==END OF PAPER==

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 2 marks.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 10 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled.

Roll Number									

SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x2=20 Marks)

1. Which of the following is not a resistance welding?
 - a) Spot welding
 - b) Pressure welding
 - c) Butt welding
 - d) Percussion welding
2. In resistance welding, two electrodes are made of
 - a) Aluminum
 - b) Copper
 - c) Iron
 - d) Bronze
3. Submerged arc welding is.....
 - a) A process which uses a mixture of iron oxide and granular aluminum
 - b) A process in which arc is maintained under a blanket of flux
 - c) Accomplished by maintaining a hot molten metal pool between plates
 - d) All of the above
4. The heat generated (H) in resistance welding is expressed by
 - a) I^2Rt
 - b) IR^2t
 - c) IRt^2
 - d) $2IRT$
5. The voltage used in resistance welding is generally kept between
 - a) 4-12 volts
 - b) 12-20 volts
 - c) 20-28 volts
 - d) 28-36 volts

6. In Gas tungsten arc welding (TIG) the following polarity is used
 - a) Direct current straight polarity (DCSP)
 - b) Direct current reverse polarity (DCRP)
 - c) Alternating Current high frequency (ACHF)
 - d) All of the above
7. Which of the following defects occur due to filler material having a different rate of contraction compared to parent metal?
 - (a) Undercut
 - (b) cracking in weld metal
 - (c) hot cracking
 - (d) cold cracking
8. Which of the following defects occur at a lower temperature?
 - (a) Undercut
 - (b) cracking in weld metal
 - (c) hot cracking
 - (d) cold cracking
9. Which of the following defects occur due to incorrect welding techniques?
 - (a) undercut
 - (b) cracking in weld metal
 - (b) hot cracking
 - (d) cold cracking
10. In resistance welding, the pressure is released
 - (a) Just at time of passing the current
 - (b) After the weld cools
 - (c) After completion of current
 - (d) During heating periods

SECTION –B (ESSAY TYPE QUESTIONS)