R18 Regulation *Subject code:* 2E7CB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech VII Semester Regular/Supplementary Examinations, November 2022

WELDING TECHNOLOGY
(Professional Elective)
(Mechanical Engineering)

Maximum Marks: 70 Date:07.12.2022 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 What are the uses of different types of flames in gas welding?
2 Mention the limitations of carbon arc welding process.
3 List down the various process parameters in resistance welding.
4 Write down the applications of spot welding.
5 Give the limitations of diffusion bonding.
6 What is solid state welding?
7 Give the difficulties faced in underwater welding.
8 Mention the applications of Thermit welding.
9 List out the merits of ultrasonic testing on welded joints.
10 What are the different weld joint designs?

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain the principle of submerged arc welding with a neat diagram. [10M]

OR

12 Discuss the principle and procedure for plasma arc welding with a sketch. [10M]

13 Describe the process of Seam welding and Percussion welding. List out the merits and limitations of both processes. [10M]

OR

14 Explain the principle of resistance butt welding and flash butt welding with neat sketches. [10M]

15 Discuss the principle, procedure and merits of explosive welding with a neat sketch. [10M]

OR

16 Explain the principle of ultrasonic welding with a necessary sketch. [10M]

17 Discuss the principle and procedure for atomic hydrogen welding with necessary diagram. [10M]

OR

18 Explain the process of friction stir welding with a sketch. [10M]

19 Discuss the various welding defects. [10M]

OR

20 Explain the process of liquid penetrant testing and radiographic testing of weld specimen. [10M]