CLASS: BE   SEMESTER: VII
BRANCH: PROD./MECH.   SESSION : MO/2018

SUBJECT : PE7009 ADVANCED WELDING TECHNOLOGY

TIME: 1.5 HOURS   FULL MARKS: 25

INSTRUCTIONS:
1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

Q1 (a) What do you understand by HAZ?   [2]
     (b) What do you understand by friction welding? Where is it suitable?   [3]

Q2 (a) Identify the factors that affect weldability.   [2]
     (b) With neat labeled sketch explain the working of Ultra sonic Welding.   [3]

Q3 (a) Explain the principle behind generation of LASER.   [2]
     (b) Explain With neat sketch the principle of electron beam welding with a neat sketch.   [3]

Q4 (a) What are the possible problems in electron beam welding.   [2]
     (b) Explain different type of EBW on the basis of vacuum.   [3]

Q5 (a) Give the Characteristics of Underwater Welding.   [2]
     (b) Discuss some common problems encountered in underwater welding.   [3]

Q6 (a) Explain the wet welding process.   [2]
     (b) Two metal sheets of 3 mm thickness are butt welded using EBW. The unit melting energy   [3]
          is 5J/mm3. The weld joint is to be made 0.35 mm wide so the cross section of the fused
          metal is 0.35 mm by 3 mm. if accelerating voltage is 25KV, beam current is 30mA, heat
          transfer efficiency f1=0.85 and melting efficiency f2=0.75, determine the travel speed at
          which this weld can be made along the seam.

:::::: 12/09/2018 ::::::M