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CONFIDENTIAL

SET A

UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
JANUARY 2010 SESSION

SUBJECT CODE	:	FWB 32703
SUBJECT TITLE	:	WELDING PROCEDURE CONSTRUCTION
LEVEL	:	BACHELOR
TIME / DURATION	:	3.00pm – 5.30pm (2.5 HOURS)
DATE	:	30 APRIL 2010

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. Please write your answers on the answer booklet provided.
4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
5. This question paper consists of TWO (2) sections. Section A and B. Answer all questions in Section A. For Section B, answer four (4) question only.
6. Answer all questions inEnglish.

THERE ARE 6 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)

INSTRUCTION: Answers should be written in the OMR sheet provided in Appendix 1.

1. In procedure qualification testing, you'll encounter two main types of qualifications, they are:

   a. Fillet Weld and Corner Weld Qualification.
   b. Fillet Weld and Groove Weld Qualification.
   c. Groove Weld Qualification only.
   d. None of the above.

(2 marks)

2. A welder approval test to BS EN287 uses:-

   a. The same assessment as the weld procedure approval
   b. A greater number of assessment compared to the weld procedure approval
   c. A reduced number of assessment compared to the weld procedure approval
   d. Either b) or c) as it depends on the test piece used

(2 marks)

3. A change of a listed 'essential' variable in a welding procedure will require:-

   a. Prior company authorisation
   b. Re-qualification of the welding procedure
   c. A change in inspection techniques
   d. None of the above

(2 marks)

4. Which of the following standards reference Welder Qualifications:

   a. BSEN 499
   b. BSEN 288
   c. BSEN 22554
   d. BSEN 287

(2 marks)

5. A specification makes no mention of visual inspection. Should you:

   a. perform normal visual inspection
   b. restrict inspection to NDT requirements
   c. refer to higher authority for guidance
   d. restrict inspection to checking weld dimensions

(2 marks)

6. A welder qualification test is used to determine:-

   a. The quality of the materials
   b. The mechanical properties of the test piece

c. The skill of the welder
d. The non-destructive test procedures

(2 marks)

7. What does a Welder Qualification Test Report (WQTR) tells us?

a. The results of the welding test, including what the welder is qualified to do.
b. What the welder is qualified to do.
c. The results of the welding test only;
d. None of the above.

(2 marks)

8. What is actually written in the Welding Procedure Qualification Report (WPQR)?

a. Proves that the joint can be welded and tested to meet the specific Standard or Code requirements.
b. The variables and tests that have been performed by a qualified individual to prove the test is valid
c. This document and its variables are used to construct the WPS.
d. All of the above.

(2 marks)

9. Does tack welding require qualification as per AWS D1.1?

a. It is not stated in the code;
b. It is stated in other codes;
c. It is stated clearly in the code;
d. None of the above.

(2 marks)

10. How is the Procedure Qualification Record (PQR) different from the WPS (Welding Procedure Specification)?

a. Procedure Qualification Record certifies the test welds in compliance to the WPS;
b. Procedure Qualification Record and WPS meet the code requirements;
c. Procedure Qualification Record certifies that test welds performed in accordance with the WPS meet Code requirements and summarizes the specific test results.
d. None of the above.

(2 marks)

11. When approving weld procedures to BS EN 288-3 the welder:-

a. Is automatically approved
b. Is approved to the same specification
c. Is approved to a separate specification
d. Is approved for the same range of approval

(2 marks)

12. In a welding symbol, at the reference line, in the tail, is the number 111. This number indicates:

a. The WPS number;
b. The type of electrode;
c. The welding position;
d. The type of process.

(2 marks)

13. Mechanical tests used in procedure or performance qualification are specified in QW-141.1 through QW-141.5. of ASME IX. Tension Test will determine .....

a. The ultimate strength of groove-weld joints.
b. The degree of soundness and ductility of groove-weld joints.
c. The size, contour, and degree of soundness of fillet welds
d. None of the above

(2 marks)

14. Mechanical tests used in procedure or performance qualification are specified in QW-141.1 through QW-141.5. of ASME IX. Guided-Bend Test will determine .....

a. The ultimate strength of groove-weld joints.
b. The degree of soundness and ductility of groove-weld joints.
c. The size, contour, and degree of soundness of fillet welds
d. None of the above

(2 marks)

15. Mechanical tests used in procedure or performance qualification are specified in QW-141.1 through QW-141.5. of ASME IX. Notch-Toughness Test will determine .....

a. The ultimate strength of groove-weld joints.
b. The size, contour, and degree of soundness of fillet welds
c. The notch toughness of the weldment.
d. None of the above.

(2 marks)

16. The purpose for qualification of a WPS is to determine:

a. The weldment proposed for construction is capable of providing the required properties for its intended application
b. Welding procedure qualification establishes the properties of the weldment
c. Welding procedure qualification does not establish the skill of the welder or welding operator
d. All of the above.

(2 marks)

17. The Procedure Qualification Record (PQR) documents what occurred during welding the test coupon and the results of testing of the coupon. As a minimum, the PQR shall document:
a. The essential variables and other specific information identified in Article II of ASME IX for each process used during welding the test coupon and the results of the required testing
b. The applicable supplementary essential variables for each process shall be recorded.

c. Both (a) and (b).
d. None of the above.

(2 marks)

18. Both WPSs and SWPSs specify the conditions (including ranges, if any) under which welding must be performed. These conditions include:

a. The base metals that are permitted,
b. The filler metals that must be used (if any),
c. The preheat and post-weld heat treatment requirements,
d. All of the above.

(2 marks)

19. When a WPS is to be prepared by the manufacturer or contractor, it must address, as a minimum:

a. The specific variables,
b. Both essential and non-essential for each process to be used in production welding,
c. The applicable supplementary essential variables must be addressed in the WPS.
d. All of the above.

(2 marks)

20. In performance qualification, the basic criterion established for welder qualification is to determine:

a. The welder's ability to deposit sound weld metal,
b. The welding operator's mechanical ability to operate the welding equipment
c. Both (a) and (b).
d. None of the above

(2 marks)

SECTION B (Total: 60 marks)

Answer question 1 and 3 other questions

Please use the answer booklet provided.

Q1. Why do fabricators need welding procedures?

(15 marks)

Q2. What is a WPS?

(15 marks)

Q3. What does Pre-Qualified mean?

(15 marks)

Q4. What is a PQR?

(15 marks)

Q5. Is there a welding code like AWS D1.1 that can be used for aluminum? Can you transfer the AWS D1.1 procedures and performance qualifications from steel to aluminum?

(15 marks)

Q6. What should a WPS include?

(15 marks)

END OF QUESTION