BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration no.-

School of Metal Construction Skills

1st Semester, 2nd In-Sem. Examination

B. Voc. Program, Summer Semester (2019-20)

Course Code: MCS1103 **Time: 1 Hour**

Course Name: Electrode welding (MMAW) **Max. Marks: 20**

Instructions:

1. Attempt all questions.
2. Use of Calculators is prohibited.
3. Section A contains 05 Questions. Each question carries 1 Marks.
4. Section B contains 03 Questions. Each question carries 2 Marks.
5. Section C contains 03 Questions. Each question carries 3 Marks.

Section- A **01X5= 5 Marks**

Q1. What is the code for MMA Welding?

a) 141 (b) 111

c) 121 (d) 232

Q2. Tensile strength of electrode E6013 is...

a) 13 psi

b) 60 x 10^3 psi

c) 60 psi

d) None of the above

Q3. What type of coating is found on electrode E6013?

a) Hydrogen coating

b) Titanium coating

c) Zinc powder

d) High titania potassium

Q4. The gap between the electrode and the workpiece should be about?

a) 2-3 mm always

b) Depend on users

c) Core wire diameter

d) None of the above

Q5. What is the most required thing in welding?

(A) Electrode (C) Heat

(B) Air (D) Pressure

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Section- B **02X3= 6 Marks**

Q6. Classify weld seam inspection procedure and name three process of each

Q7.What is protective equipment? Write name of four protective equipment's used in welding

Q8. What do you mean by welding defect?

Section- C **03X3= 9 Marks**

Q9. Describe the designation of Mild steel electrode in MMA. Explain what you understand by E6013 & E 7018.

Q10. Draw and name all types of welding position in AWS with their designation.

Q11. Write any three characteristics of electrode covering.

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Answer

Section – A

05X01 = 05 Marks

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What is the most required thing in welding?

(A) Electrode
(B) Air
(C) Heat
(D) Pressure

Section- B **02X3= 6 Marks**

Q6. Classify weld seam inspection procedure and name three process of each

Ans: Types of Weld Seam inspection:

A) Destructive
Bend Test
Break Test
Test
Tensile Test
Magnetic practical test
Eddy current Test
Visual Inspection (any 3)

B) Non Destructive
x ray Test
Liquid penetration
Ultra sonic Test

Q7.What is protective equipment? Write name of four protective equipment's used in welding

Ans: Accessories that are used to protect the person doing any kind of work. Protective gear used in welding:

a. Holding
b. Gloves
c. Apron
d. Safety shoes
e. Safety glass
f. Ear plug
g. Nose mask (any Four)

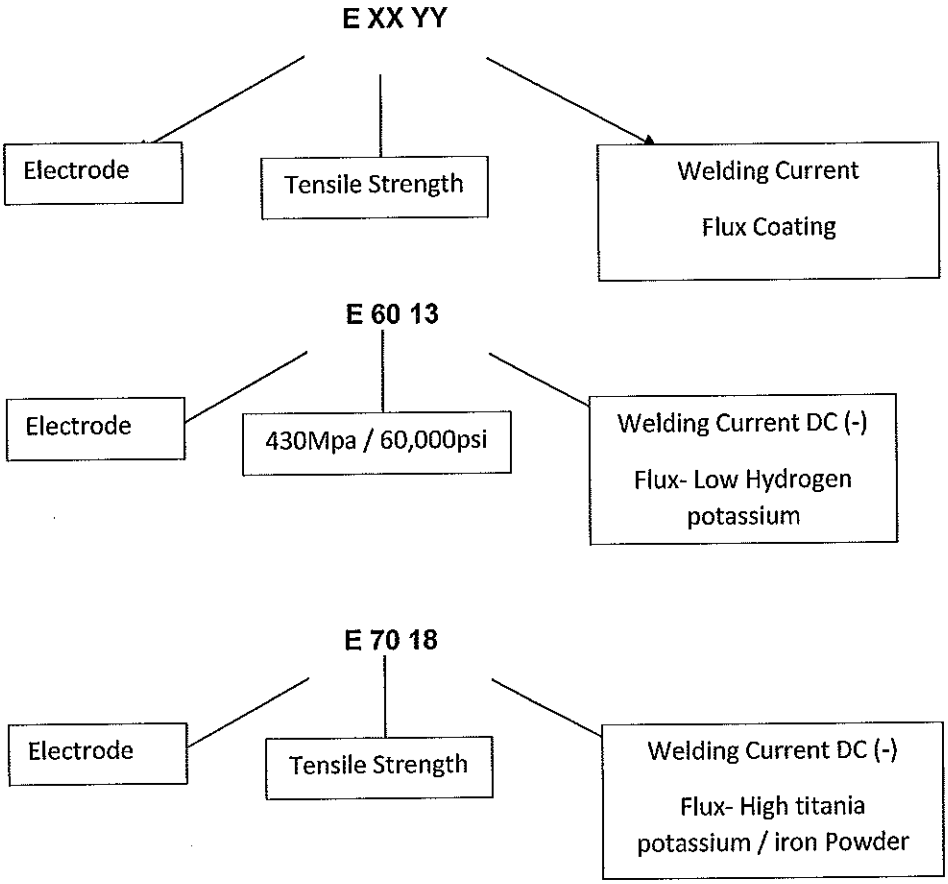
Q8. What do you mean by welding defect?

Ans: A welding defect is any flaw that compromises the usefulness of a weldment.

Section- C **03X3= 9 Marks**

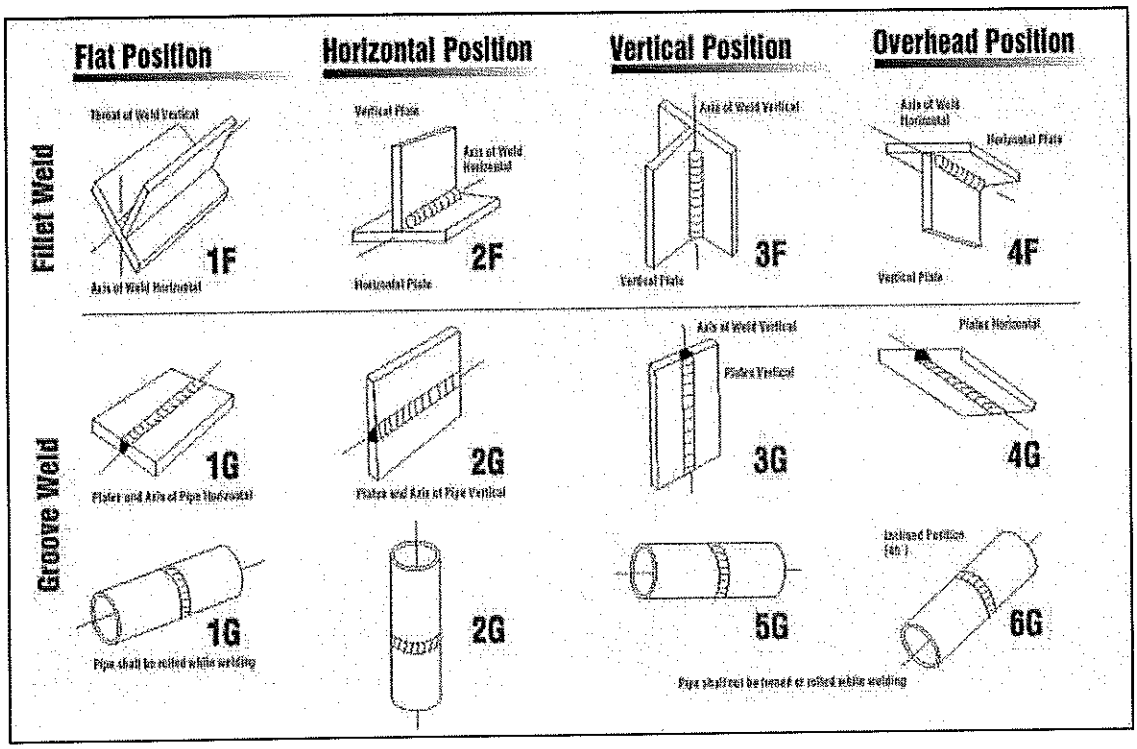
Q9. Describe the designation of Mild steel electrode in MMA. Explain what you understand by E6013 & E 7018.

Ans:



Q10. Draw and name all types of welding position in AWS with their designation.

Ans:



Q11. Write any three characteristics of electrode covering.

Ans: Characteristics of electrode covering:

1. Provide a protective atmosphere.
2. Stabilize the arc.
3. Provide a protective slag coating to accumulate impurities, prevent oxidation, and slow the cooling of the weld metal.
4. Reduce spatter.
5. Add alloying elements.
6. Affect arc penetration
7. Influence the shape of the weld bead.
8. Add additional filler metal. (any 3)

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School of Metal Construction Skills

Session: 2019-20 (Summer Semester)

B. Voc. Program, I Semester,

2nd In-Sem. Examination

Course Code: MCS1106 **Time: 1 Hour**

Course Name: Brazing/ Soldering/ oxy-fuel processes **Max. Marks: 20**

Instruction:

1. Attempt all questions.
2. Use of Calculators is prohibited.
3. Section A contains 05 Questions. Each question carries 1 Mark.
4. Section B contains 03 Questions. Each question carries 2 Marks.
5. Section C contains 03 Questions. Each question carries 3 Marks.

Section – A

05X01 = 05 Marks

Q.1:- What is the meant by a neutral flame?

a) A pre-heating flame
b) A scattered flame
c) An oxygen-acetylene flame in a mix ratio of 1:3
d) A flame that contains neither access oxygen nor excess acetylene

Q.2:- What colour identifies the acetylene hose?

a) Blue
b) Red
c) Orange
d) Yellow

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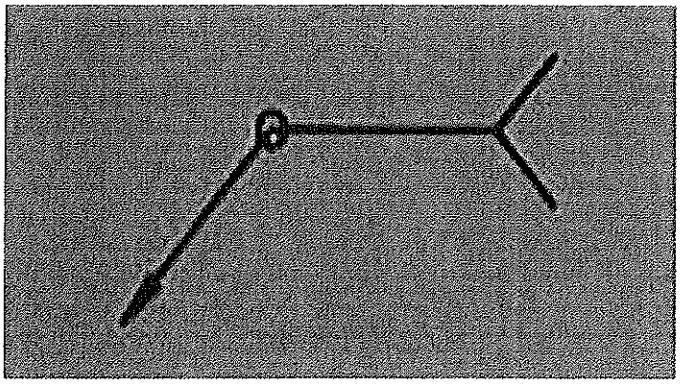
Q.3:- Why we use Acetone in Acetylene gas cylinder?

a) It absorb acetylene
b) It absorb oxygen
c) It improve the quality of flux
d) It gives additional strength to cylinder

Q.4:- What is the meaning of the following welding symbol?



a) Assembly seam
b) Surface seam
c) Round seam
d) Full-circumference seam

Q.5:- Which gas burns with highest flame temperature?

a) Propene
b) Methane
c) Hydrogen
d) Acetylene

Section – B

03X02 = 06 Marks

Q.1:- What is the use of flux in brazing? (Any two)

Q.2:- How to prepare workpiece for brazing?

Q.3:- Write down the steps for execution of brazing.

Section – C

03X03 = 09 Marks

Q.1:- Why we use Pressure Regulators on cylinders in oxy-fuel process?

Q.2:- Write some safety points for handling gas cylinders. (Any three)

Q.3:- Write-down the steps to set the flame.

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Answer Key

Section – A

05X01 = 05 Marks

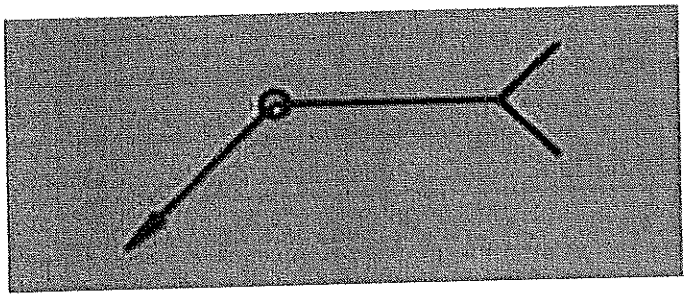
Q.1:- What is the meant by a neutral flame?
Ans. d) A flame that contains neither access oxygen nor excess acetylene

Q.2:- What colour identifies the acetylene hose?
Ans. b) Red

Q.3:- Why we use Acetone in Acetylene gas cylinder?

Ans. a) It absorb acetylene

Q.4:- What is the meaning of the following welding symbol?



Ans. d) Full-circumference seam

Q.5:- Which gas burns with highest flame temperature?

Ans. d) Acetylene

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Section – B

03X02 = 06 Marks

Q.1:- What is the use of flux in brazing? (any two)

1. Fluxes improves the flow of filler metal into the brazing gap
2. They also help to ensure a clean metal work piece surface.
3. Prevents oxidation during the brazing process.
4. The residual oxides are chemically bonded by the flux.

Q.2:- How to prepare workpiece for brazing?

Ans. The following steps must be done before the brazing procedure can begin:

1. Select filler metal and flux.
2. Mechanically and chemically, clean joint area.
3. Apply flux to area is to be brazed.
4. Position work pieces properly and fasten together.

Q.3:- Write down the steps for execution of brazing.

Ans. These are the steps for brazing execution:-

1. Evenly heat up work pieces in the joint area.
2. Place brazing filler metal on the joint.
3. Allow filler metal to solidify.
4. Remove flux residue.

Section – C

03X03 = 09 Marks

Q.1:- Why we use Pressure Regulators on cylinders in oxy-fuel process?

Ans. It is not possible to work with the high cylinder pressures of up to 200 bars (oxygen) and 19 bars (acetylene).

It is the function of the pressure regulator, therefore, to reduce the cylinder pressure to the so-called operating pressure and hold it constant.

Vetted

Q.2:- Write some safety points for handling gas cylinders. (Any Three)

Ans.

1. Secure gas cylinders against tipping over with wall mounting device.
2. When this is not possible, always place them in a tilted position.
3. Transport gas cylinders only on special cylinder trucks with protective caps screwed in place.
4. Prevent valves and fittings on cylinders from contacting oil or grease (danger of explosion).
5. Inspect gas cylinders against heat, frost, and impacts.
6. Ensure good work place ventilation.
7. Protect hoses against sparks, hot works pieces particles and being driven over by vehicles.

Q.3:- Write-down the steps to set the flame.

Ans. In order to adjust the flame, the following process steps are necessary.

1. Make sure both pressure regulators are closed after previous use.
2. Slowly open the cylinder valves about one revolution.
3. Set operating pressure on the acetylene and oxygen pressure regulators.
4. First, open torch's oxygen valve.
5. Then, open torch's acetylene valve.
6. Ignite gas mixture.