Set A

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of School of metal Construction Skills

Session: 2020-21 (Summer Semester)

B. Voc. Program, 1st Semester,

1st In-Sem. Examination

Course Code: MCS1101 **Time: 1 Hour**

Course Name: HANDSKILLS AND FITTING **Max. Marks: 20**

Instruction:

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

05X01 = 05 Marks

Q1. Which tool is not a marking or scribing tool?

(A) Try square (C) Punch

(B) Divider (D) Vernier Caliper

Q2. While using hacksaw which stroke is a cutting stroke?

(A) upward (C) forward

(B) downward (D) backward

Q3. Which material do you file with a single cut file?

(A) Mild steel (C) Stainless steel

(B) Tool steel (D) Tin

Q4. To avoid sticking of chips in file which lubricant we use

(A) water (C) chalk

(B) grease (D) coolant

Q5. Which part does not belong to a file?

(A) Tang (C) Bow

(B) Blade (D) Heel

Section – B

03X02 = 06 Marks

Q6. Why do you make a file notch?

Q7. What are the types of cuts in flat file?

Q8. Write short notes on scriber?

Section – C

03X03 = 09 Marks

Q9. Write work plan for making a radius of 10mm on an aluminum work-piece.

Q10. Explain the term counter bore and countersink.

Q11. Explain how you should clean a file property.

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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

05X01 = 05 Marks

Q1. Which tool is not a marking or scribing tool?

(A) Try square
(B) Divider
(C) Punch
(D) Vernier Caliper

Ans. D

Q2. While using hacksaw which stroke is a cutting stroke?

(A) upward
(C) forward
(B) downward
(D) backward

Ans. C

Q3. Which material do you file with a single cut file?

(A) Mild steel
(C) Stainless steel
(B) Tool steel
(D) Tin

Ans. D

Q4. To avoid sticking of chips in file which lubricant we use

(A) water
(C) chalk
(B) grease
(D) coolant

Ans. C

Q5. Which part does not belong to a file?

(A) Tang
(C) Bow
(B) Blade
(D) Heel

Ans. C

Section – B

03X02 = 06 Marks

Q6. Why do you make a file notch?

Ans. Notching avoid the saw slipping away to the side. Notching makes it easier to positioning the saw blade.

Q7. What are the types of cuts in flat file?

Ans. a. Single cut

b. Double cut

Q8. Write short notes on scriber?

Ans. Scribing refers to the transferring the contours and dimensions onto the wok piece to be processed.

Section – C

03X03 = 09 Marks

Q9. Write work plan for making a radius of 10mm on an aluminum work-piece.

- Ans. Material checking
- Deburring
- Sizing (measurement by measuring tool)
- Filing (file)
- Clamping
- Scribing (scriber)- scribing all lines with all dimensions
- Punching (centre punch)- on base plate
- Checking

Q10. Explain the term counter bore and countersink.

Ans. Counter bore – it is a cylindrical flat bottom hole profile that enlarges the coaxial hole.

Tool used for counter bore is called counter boring tool. First we have to drill a suitable hole for that. Typically used when a fastener like socket head cap screw is required to sit flush with or below level of work piece.

Counter sink – it is a conical hole cut into a work piece, used to provide support or seat for fasteners below the level of work piece.

Q11. Explain how you should clean a file properly.

Ans. Use a fille brush to clean the file.

Traces of chips left behind which cannot be removed with a fille brush are removed with a file cleaner (brass or copper sheet) working in the direction of the overcut.

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School of Metal Construction Skills

Session: 2020-21 (Summer Semester)

B. Voc. Program, 1st Semester,

1st In-Sem. Examination

Course Code: MCS1102 **Time: 1 Hour**

Course Name: MEASURING **Max. Marks: 20**

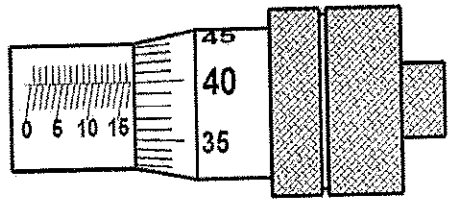
Instruction:

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

05X01 = 05 Marks

Q1. Which measurement can you read?



(A) 15.0mm
(B) 16.9mm
(C) 16.40mm
(D) 17.4mm

Q2. Which part does not belong to a Vernier caliper?

(A) Measuring jaw
(B) The clamp
(C) Scale sleeve
(D) Depth measuring rod

Q3. Which tool is a gauge?

(A) Bevel angle
(B) Protractor
(C) Punch
(D) Vernier Caliper

Q4. With which tool can be measured 12.5+/-0.3?

(A) Steel ruler
(B) Micrometer gauge
(C) Tape measure
(D) Folding rule

Q5. Which tool is most suitably used for scribing a circle?

(A) divider
(B) scriber
(C) Vernier caliper
(D) pencil

Section – B

03X02 = 06 Marks

Q6. What is subjective and objective testing.

Q7. Name 8 different measuring instruments/gauges

Q8. What is protractor?

Section – C

03X03 = 09 Marks

Q9. What are differences between measuring and gauging?

Q10. What are the components of Vernier calliper?

Q11.Explain the twentieth Vernier with diagram.

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School of Metal Construction Skills

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B. Voc. Program, 1st Semester,

1st In-Sem. Examination

Course Code: MCS1102 **Time: 1 Hour**

Course Name: Measuring **Max. Marks: 20**

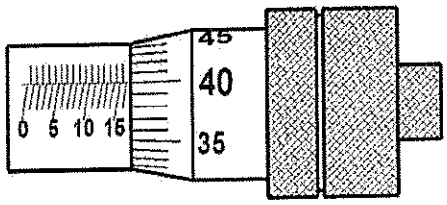
Instruction:

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

05X01 = 05 Marks

Q1. Which measurement can you read?



(A) 15.0mm
(C) 16.40mm
(B) 16.9mm
(D) 17.4mm

Ans. C

Q2. Which part does not belong to a Vernier caliper?

(A) Measuring jaw
(C) Scale sleeve
(B) The clamp
(D) Depth measuring rod

Ans. C

Q3. Which tool is a gauge?

(A) **Bevel angle**
(C) Punch
(B) Protractor
(D) Vernier Caliper

Ans. A

Q4. With which tool can be measured 12.5+/-0.3?

(A) Steel ruler
(C) Tape measure
(B) **Micrometer gauge**
(D) Folding rule

Ans. B

Q5. Which tool is most suitably used for scribing a circle?

(A) **divider** (C) Vernier caliper

(B) scriber (D) pencil

Ans. A

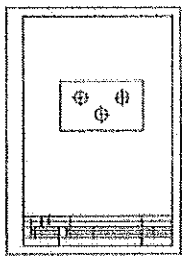
Section – B

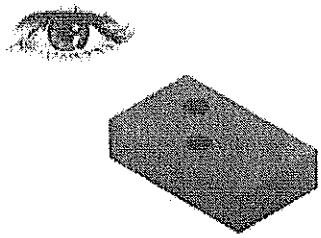
03X02 = 06 Marks

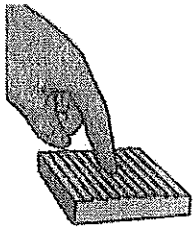
Q6. What is subjective and objective testing.

Ans. **Subjective testing**

Subjective test methods lead to conclusions which can vary greatly from one tester to the next.







good/ bad

You can see, that at the work piece one rough
Hole is missing

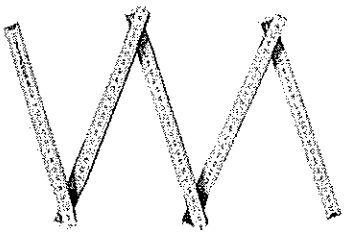
you can feel, that the surface is too

Objective testing

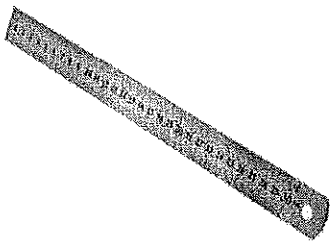
Objective test methods must produce results that always contain am measured value or a conclusion that is unequivocal. In other words, anyone carrying out the test using the same method must come to the same result.

Q7. Name 8 different measuring instruments/gauges

Ans.

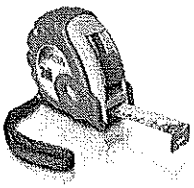


Folding rule

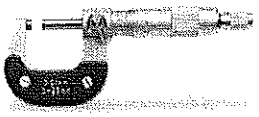


steel ruler

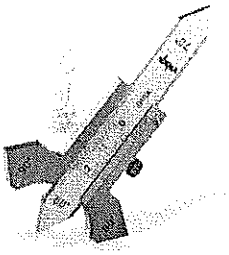
Protractor



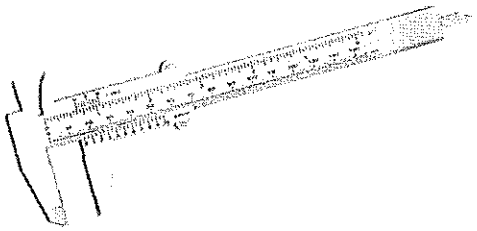
Laser measure



Tape measure



Micrometer gauge



Welding gauge

Vernier calipper

Q8. What is protractor?

Ans. Protractors are used to measure and set various angles. The dial on a protractor is divided into increments of 0-180 in degrees.

Reading accuracy is 1 degree

To read the measurement result directly, line the work-piece up on the right hand side of protractors.

Section – C

03X03 = 09 Marks

Q9. What are differences between measuring and gauging?

Ans. Measuring is the process by means of which a measured value is determined ba comparing a given size with a statutory unit of measure.

Gauging is the process of determining wheter specific lengths, angles or shapes of a test object comply with given dimensional or physical limits gauges or the direction in which these are exceeded. Gauging does not determine the extent of any deviation from these limits.

Measuring something gives it a numeric value, an actual size and unit.

Gauging something just makes sure that it is between tolerances without actually having to measure it.

Q10. What are the components of Vernier caliper?

1. Ans. The bar with line graduation in mm
2. Fixed measuring jaw
3. The adjustable measuring jaw
4. The slide with Vernier graduation
5. The retaining screw
6. The clamp
7. Cutting areas for measuring internal dimensions
8. The measuring areas to measuring thread
9. The depth measuring rod for measuring drill depth, groove depth and right height

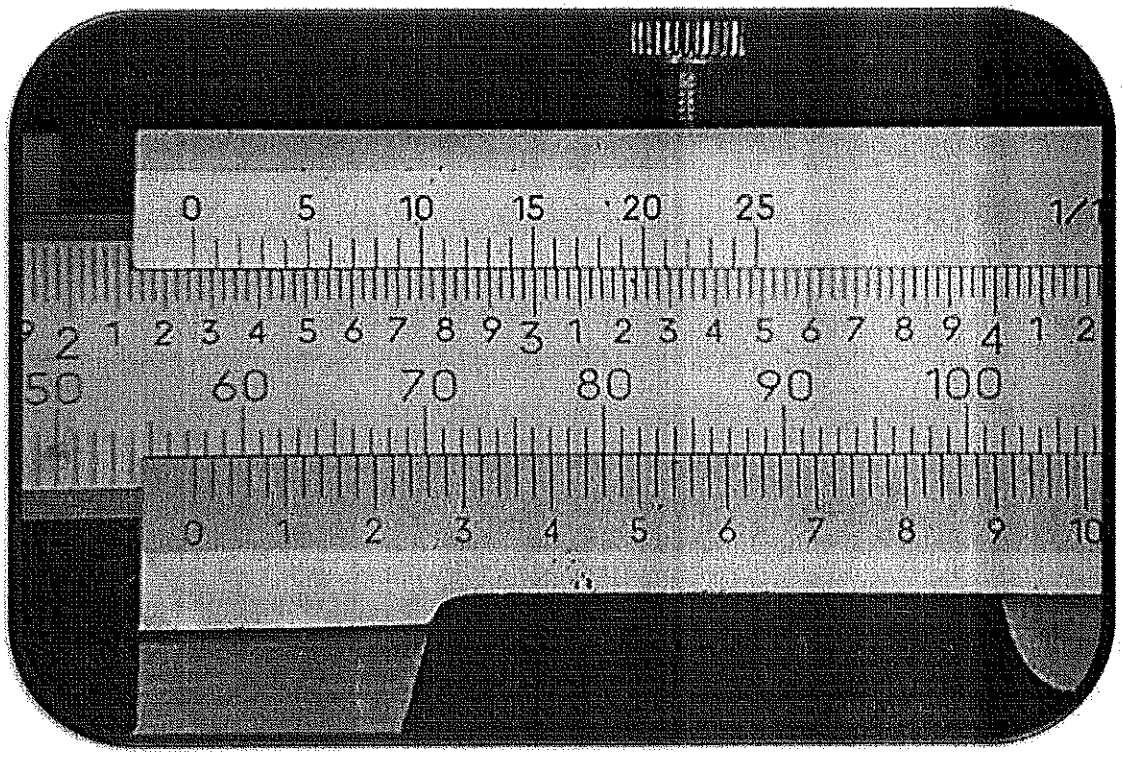
Q11. Explain the twentieth Vernier with diagram.

Ans. The twentieth (1/20) with Vernier length of 39mm.

39mm on the main scale are divided into 20 equals parts on auxiliary scale(Vernier).

So the Vernier value is 1.95mm; it is accordingly 0.05mm (=1/20) smaller than 2 scale divisions (=2) on the main scale. The results in reading accuracy of 1/20mm =0.05

Example:



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B. Voc. Program, 1st Semester,

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

Course Name: ELECTRODE WELDING (MMAW) **Max. Marks: 20**

Instruction:

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

05X01 = 05 Marks

Q1. Which is not a permanent joint?

a.) soldering b.) Brazing

c.) riveting d.) screwing

Q2. Distortion in welding is occurs due to.

a.) heat b.) Current

c.) shielding gas d.) polarity

Q3. which process is used for protecting the base metal from wear out?

a.) Soldering b.) hard facing

c.) brazing d.) grooving

Q4. Which is the optimal position for welding?

a.) flat b.) horizontal

c.) overhead d.) vertical

Q5. Which type of position 2G indicates?

a.) horizontal fillet b.) vertical fillet

c.) horizontal groove d.) vertical groove

Section – B

03X02 = 06 Marks

Q6. What is weld seam?

Q7. How to represent construction site seam symbol?

Q8. Write names for destructive weld seam inspection?

Section – C

03X03 = 09 Marks

Q9. Explain destructive and non-destructive welding seam inspection procedure. (Three each)

Q10. Define welding and give advantages and disadvantages of welding.

Q11. What is protective gear? Give the use of six protective gear.

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

Course Name: ELECTRODE WELDING (MMAW) **Max. Marks: 20**

Instruction:

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5. Section C contains 03 Questions. Each question carries 3 Marks.

Section – A

05X01 = 05 Marks

Q1. Which is not a permanent joint?

a.) soldering b.) Brazing

c.) riveting d.) screwing

Ans. C

Q2. Distortion in welding is occurs due to.

a.) heat b.) Current

c.) shielding gas d.) polarity

Ans. A

Q3. which process is used for protecting the base metal from wear out?

a.) Soldering b.) hard facing

c.) brazing d.) grooving

Ans. B

Q4. Which is the optimal position for welding?

a.) flat b.) horizontal

c.) overhead d.) vertical

Ans. A

Q5. Which type of position 2G indicates?

a.) horizontal fillet b.) vertical fillet

c.) horizontal groove d.) vertical groove

Ans. C

Section – B

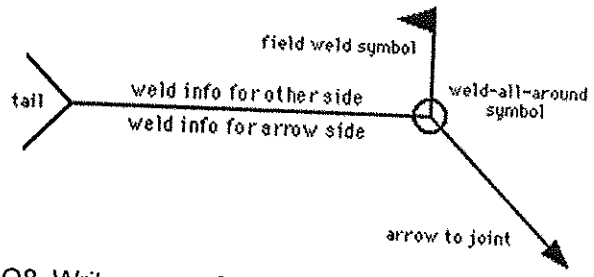
03X02 = 06 Marks

Q6. What is weld seam?

Ans. The area of the material joint produced by welding is called the weld seam.

Q7. How to represent construction site weld seam symbol?

Ans.



Q8. Write names for destructive weld seam inspection?

1. Ans. Breaking test
2. Bend test
3. Tension test

Section – C

03X03 = 09 Marks

Q9. Explain destructive and non-destructive welding seam inspection procedure. (Three each)

Ans. Destructive Testing procedure

1. Fracture test: - The welded seam is mechanically broken.
2. Folding test: - The welding seam is bent under a press until it breaks.
3. Tensile test: - A flat or round bar is drawn in the longitudinal direction until it breaks.

Non-destructive testing procedures

1. Visual inspection: - Using the naked eye or a magnifying glass.
2. Dye penetration testing (capillary process): - Rust, dirt and dye are removed, capillary liquid (red) is sprayed on. Any cracks then become visible in red.
3. Displacement with water: - A pressure test is performed at the stipulated pressure.
4. X- Ray testing: - They are capable of penetrating work piece. Welded seam faults are projected onto a radiation-sensitive film positioned behind the work piece.

Q10. Define welding and give advantages and disadvantages of welding.

Ans.

Advantages

Welding joins components securely together and produces sealed joints.

For this reason, pipes are joined by welding.

Welding is, in many cases, the most economical joining procedure.

Therefore, it is often used in mass production, for example, for spot welding vehicle chassis parts together by robots.

In contrast to bonding, soldering or brazing, only small joining surfaces are required for welding.

Disadvantages

Among the disadvantages of welding are the structural changes and heat distortion in the welding zone, both caused by the high temperatures required.

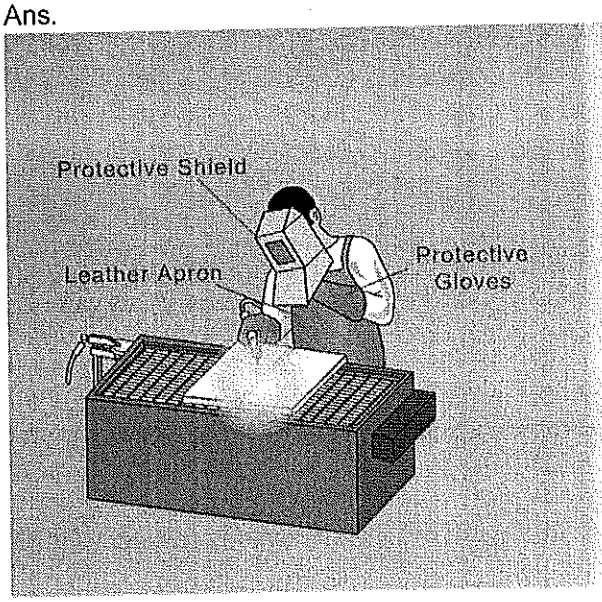
In addition, only identical or similar metals can be welded together.

Furthermore, not all metals are suitable for welding.

High carbon content steel parts, for example, can not be welded.

Q11. What is protective gear? Give the use of six protective gear.

Ans.



Protective Gear

The welding arc, in addition to radiating heat and bright visible light, also radiates invisible ultraviolet and infrared rays of high intensity.

The protective gear that is always worn during manual shielded metal arc welding prevents serious eye and skin injuries.