BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.....

School of Woodworking Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, 1st Sem,

1st In-Sem. Examination

Course Code: SCS1101 **Time: 1 Hour**

Course Name: Hand Skill and transfer of measurement **Max. Marks: 20**

Instruction:

- Answer all questions from section A, each question carries one mark.
- Answer all question from section B, each question carries two marks.
- Answer all question from section C, each question carries three marks

Section A

05X01 = 05 Marks

Q 1. Which one is not a cutting tool?
(A) Japanese saw
(B) Jack Planner
(C) Rip Saw
(D) None of the them

Q 2. Which tool is used for 90^0 angle measurement?
(A) File
(C) Try Square
(B) Double Meter
(D) Marking Gauge

Q 3. One Meter is equivalent to how many millimeter?
(A) .001mm
(C) 100mm
(B) 1000mm
(D) .01mm

Q 4. Which one sand paper will give a better surface finish?
(A) P220
(C) P100
(B) P180
(D) P150

Q 5. One millimeter is equivalent to how much centimeter?
(A) 100cm
(C) .01cm
(B) 1cm
(D) 0.1Cm

Section B

03X02 = 06 Marks

Q 6. What is Lap and Butt Joint Define it with proper Diagram?
Q 7. What do you mean by Try square and also draw the Diagram?
Q 8. Write any two difference between Rip Saw and Cross Cut Saw.

Section C

03X03 = 09 Marks

Q 9. Discuss any six kind of marking symbol and their significance.
Q 10. What is Jack planner? Write down its parts name with Diagram.
Q 11. What do you understand by Sand paper? Discuss about grit size and their significance.

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Section A

05X01 = 05 Marks

Q 1. Which one is not a cutting tool?
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(D) None of the them

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Answer Key

School of Woodworking Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, 1st Sem,

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Course Code: SCS 1101 **Time: 1 Hour**

Course Name: Hand Skill & transfer of Measurement **Max. Marks: 20**

Instruction:

- Answer all questions from section A, each question carries one mark.
- Answer all question from section B, each question carries two marks.
- Answer all question from section C, each question carries three marks

Section A

05X01 = 05 Marks

Q 1. Which one is not a cutting tool?

(A) Japanese saw (C) Rip Saw

(B) Jack Planner (D) None of the them (D)

Q 2. Which tool is used for 90^0 angle measurement?

(A) File (B) Double Meter

(C) Try Square (D) Marking Gauge (C)

Q 3. One Meter is equivalent to how many millimeter?

(A) .001mm (B) 1000mm

(C) 100mm (D) .01mm (B)

Q 4. Which one sand paper will give a better surface finish?

(A) P220 (B) P180

(C) P100 (D) P150 (A)

Q 5. One millimeter is equivalent to how much centimeter?

(A) 100cm (B) 1cm

(C) .01cm (D) 0.1Cm (D)

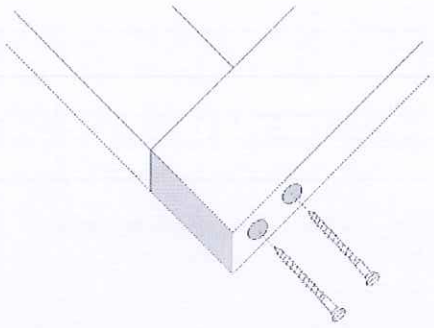
Section B

03X02 = 06 Marks

Q 6. What is Lap and Butt Joint Define it with proper Diagram?

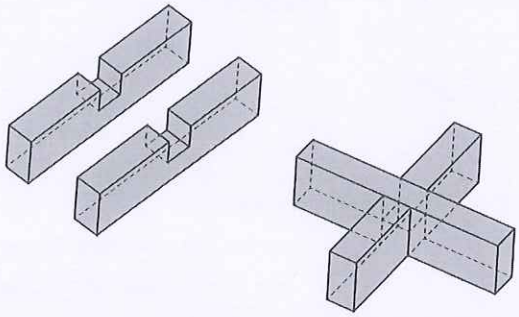
Ans. **Butt Joint**

A butt joint is a joint when one piece of wood butts into another (most often at a right angle, or square to the other board) and is fastened using mechanical fasteners.



Half Lap Joint

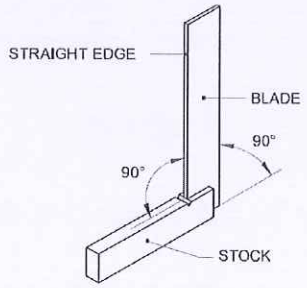
The half-lap joint is where half of each of the two boards being joined is removed so that the two boards join together flush with one another. This type of wood joinery can obviously weaken the strength of the two adjoining boards, but also is a stronger joint than butt joints.



Q 7. What do you mean by Try square draw the Diagram?

Ans. **Try Square** It is a marking tool that used to mark and check the 90^0 on pieces of wood. The square in the name refers to the 90° angle and try refers to check the wood edges, faces are straight or not with one another.

A try square is so called because it is used to try how square the workpiece is.



Q 8. Write any two difference between Rip Saw and Cross Cut Saw?

Ans. Difference between Rip Saw and Cross Cut Saw

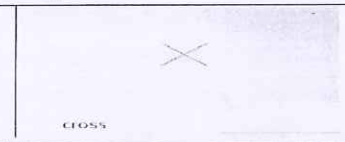
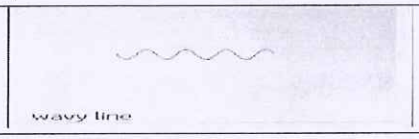
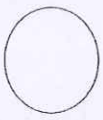
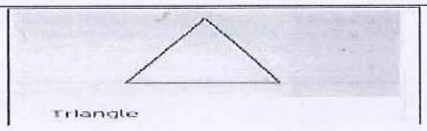
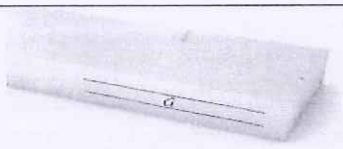
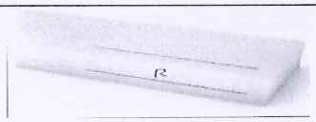
S.No.	Rip Saw	Cross Cut Saw
1.	It is best suitable for Cutting the wood parallel to the direction of wood grain (i.e. for along the grain Cutting)	It is best suitable for Cutting the wood against the direction of wood grain (i.e. Cross the grain cutting)
2.	It create wider Kerf as compare to Cross cut saw.	It create narrower Kerf as compare to Rip Saw.

Section C

03X03 = 09 Marks

Q 9. Discuss any six kind of marking symbol and their significance?

Ans. Marking Symbols are as follows:

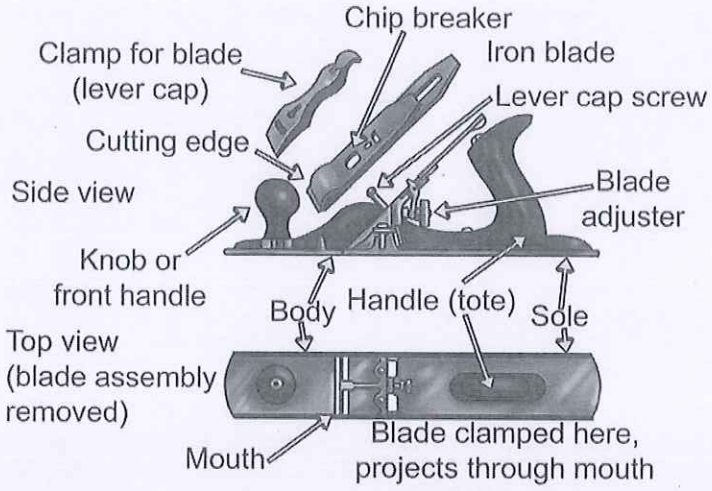
S .No.	Designation	Diagram	Significance
1.	Cross		It means throughout cut.
2.	Wavy line		It means material has to be removed throughout.
3.	Circle		It means end of cutting or material removal.
4.	Triangle		It is an assembly symbol. It is used to avoid the confusion during the assembly.
5.	Groove		The edge of the groove is symbolically indicated by lines. The G denotes the groove
6.	Rebate		The edge of the rebate is symbolically indicated by lines and R denotes the rebate.

Q 10. What is Jack planner write down its parts name with Diagram?

Ans. **Jack Planner:** It is a cutting tool that used to flatten, reduce the thickness, and impart a smooth surface to a rough workpiece of lumber or timber.

Parts of the Jack Planner

1. **Sole** is the bottom face of the plane.
2. **Mouth** is an opening in the sole of the plane through which the blade extends, and through which wood shavings rise.
3. **Iron** is a steel blade which cuts the wood.
4. **Cap iron** or **chip breaker** reinforces the iron and curls and breaks apart wood shavings as they pass through the mouth.
5. **Lever Cap** secures the cap iron and iron firmly to the frog.
6. **Depth adjustment knob** controls the cutting depth of the iron.
7. **Lateral adjustment lever** skews the iron so that the depth of cut is uniform across the mouth.
8. **Backward Handle or Tote** is the principal handle for gripping the plane.
9. **Forward handle or Knob** allows a second hand to guide the plane.



Q 11. What do you understand by Sandpaper? Discuss about grit size and their significance.

Ans. Sand paper is a special thick paper with a rough abrasive surface that is used to remove stains caused due to glue and scratches, similarly for finishing and for roughing operation (before doing paint and gluing the parts together).

Roughing is inversely proportional to grit size

- Larger grit size suitable for better surface finish.
- Smaller grit size suitable for roughing operation.

Sand paper comes in different grit size depending upon the abrasive particle size. According to FEPA standard grit size for sand paper are as follows.

S.No.	FEPA Grit Designation	Significance
1.	P12 to P36	Extra coarse (very Fast removal of material)
2.	P40 to P50	Coarse (Fast removal of material)

3.	P60 to P80	Medium removal of material
4.	P100 to P120	Fine (sanding bare wood in preparation for finishing, not suitable for removing varnish or paint from wood, use for cleaning plaster and water stain from wood)
5	P150 to P220	Very Fine removal of Material
6	P220 to P360	Very Fine (sanding finishes between coats)
7.	P400 to P600	Extra fine, start polishing of wood

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Answer key.....

School of Woodworking Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, 1st Semester,

1st In-Sem. Examination

Course Code: SC1105 **Time: 1 Hour**

Course Name: Carpenter Materials **Max. Marks: 20**

Instruction: Calculator is Permitted.

Section – A

05X01 = 05 Marks

Q.1 The property of Material by virtue of which it resists abrasion and scratches is called

(a) Hardness (b) Stiffness

(c) Strength (d) None of these. (a)

Q.2 The property of Material by virtue of which it deforms permanently is

(a) Stress (b) Strain

(c) Elasticity (d) Plasticity (d)

Q.3 Tensile strength is

(a) Strength of fiber (b) Hardness of wood

(c) Stiffness of wood (d) None of the above. (a)

Q.4 In HGP laminate, P stands for

(a) Pressurized (b) Post formed

(c) Preprocessed (d) None (b)

Q.5 Linseed oil used for

(a) Laminate (b) Particle board

(c) Linoleum (d) edge material (c)

Section – B

03X02 = 06 Marks

Q.6 Write the difference between density and bulk density ?

Ans:- Mass of any substance per unit volume of material is known as density or absolute density of material. It is expressed as "kg/m3". In the case of porous substances, the ratio between mass and volume can vary greatly. the decisive factor is how much material and how much air or gas is in the volume. That is why the term density is used instead of density for such substances.It is expressed as "**kg/m3"**

Q.7 Explain following:

(a) Dry bulb temperature (b) Resilience

Ans:- (A) It is the temperature of air recorded by a thermometer, when it is not affected by the moisture present in the air. The dry bulb temperature (briefly written as DBT) is generally denoted by td or tdb.

(B) the amount of work done upon a body in deforming it. Within the elastic limit it is also a measure of the potential energy stored in the material and represents the amount of work the material would do upon being released from a state of stress

Q.8 What are the steps linoleum fabrication ?

Ans: Linseed oil (or flaxseed oil) is the main constituent of linoleum, being extracted from flax seeds by a process of cold pressing. The process is developed in several stages: seed cleaning, stripping, drying, milling, pressing at low temperatures, and finally decanting and filtering the oil. The linseed oil acts on the linoleum as a ligation product between all the materials through their reaction with air. Resin pine is extracted from pine tree through a process called gumming. This process consists in performing cuts on the trunk and collecting the resin through a container

Section – C 03X03 = 09 Marks

Q.9 Explain any three mechanical properties of solid wood ?

Ans:

TIFFNESS: The property by means of which a body acted upon by external forces tends to retain its natural size and shape, or resists deformation. ™ Thus a material that is difficult to bend or otherwise deform is stiff; one that is easily bent or otherwise deformed is flexible. Flexibility is not the exact counterpart of stiffness, as it also involves toughness and pliability.

2. **TENSILE STRENGTH**: The tensile strength of wood parallel to the grain depends upon the strength of the fibers and is affected not only by the nature and dimensions of the wood elements but also by their arrangement.

3. **COMPRESSIVE OR CRUSHING STRENGTH**: Is very closely related to hardness and transverse shear. ™ There are two ways in which wood is subjected to stress of this kind, namely, (1) with the load acting over the entire area of the specimen, and (2) with a load concentrated over a portion of the area.

4. **SHEARING STRENGTH**: Whenever forces act upon a body in such a way that one portion tends to slide upon another adjacent to it the action is called a shear. In wood this shearing action may be (1) along the grain, or (2) across the grain.

5. **TRANSVERSE OR BENDING STRENGTH: BEAMS**: When external forces acting in the same plane are applied at right angles to the axis of a bar so as to cause it to bend, they occasion a shortening of the longitudinal fibers on the concave side and an elongation of those on the convex side.

6. **TOUGHNESS**: TORSION: Wood that is difficult to split is said to be tough Toughness includes flexibility and is the reverse of brittleness, in that tough woods break gradually.

Q.10 Explain the characteristics of Laminate ?

Ans:

Attractive aesthetic qualities
High mechanical strength
Flexibility
Dimensional stability
Durability (impact, wear and graffiti resistance)
Lightfastness of colour
Good chemical resistance
Resistance to the effects of water, steam, heat and frost
Good fire resistance
Ease of cleaning
Hygienic qualities
Anti-static properties (does not attract dust)
Ease of installation

Q.11 Explain the term linoleum with its advantages ?

Ans: *Linoleum is a material invented a century ago and a pure natural product. It consists of linseed oil, cork flour and resins. The surface is smooth and available in different shades of color. The linseed oil oxidizes at temperatures of 80°C, whereby natural resins are mixed in and the mass is processed into linoleum cement. The linoleum cement is then mixed and kneaded with cork, wood flour. The resulting fine-grained mass is rolled onto the carrier fabric and acquires the desired properties in a maturation process of two to four weeks.* With the increasing of environmental concern and the promotion of natural materials, with less environmental impact, linoleum has been increasingly regarded as floor coating option due to its composition of natural materials and their more environment friendly properties, by comparison with other solutions.

Advantages

Environmentally, linoleum has a great deal going for it. The product is made primarily from minimally processed natural ingredients. It contains almost no petroleum-based chemicals and no chlorinated chemicals. The resources used are renewable or plentiful. It is fully biodegradable.

Compared with the primary competitor in commercial buildings, linoleum is more durable and requires less maintenance

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Course Code: SCS1105 **Time: 1 Hour**

Course Name: Carpenter Materials **Max. Marks: 20**

Instruction: Calculator is Permitted.

Section – A

05X01 = 05 Marks

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(c) Strength (d) None of these.

Q.2 The property of Material by virtue of which it deforms permanently is

(a) Stress (b) Strain

(c) Elasticity (d) Plasticity

Q.3 Tensile strength is

(a) Strength of fiber (b) Hardness of wood

(c) Stiffness of wood (d) None of the above.

Q.4 In HGP laminate, P stands for

(a) Pressurized (b) Post formed

(c) Preprocessed (d) None

Q.5 Linseed oil used for

(a) Laminate (b) Particle board

(c) Linoleum (d) edge material

Section – B

03X02 = 06 Marks

Q.6 Write the difference between density and bulk density ?

Q.7 Explain briefly following:

a) Dry bulb temperature b) Resilience

Q.8 What are the steps for linoleum fabrication ?

Section – C

03X03 = 09 Marks

Q.9 Explain any three mechanical properties of solid wood ?

Q.10 Explain the characteristics of Laminate?

Q.11 Explain the term linoleum with its advantages ?

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03X03 = 09 Marks

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Q.11 Explain the term linoleum with its advantages ?

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Registration No.....

School of Woodworking Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, 1st Sem,

1st In-Sem. Examination

Course Code: SCS1106 **Time: 1 Hour**
Course Name: Hand Drawing **Max. Marks: 20**
Instruction:

- Answer all questions from section A, each question carries one mark.
- Answer all question from section B, each question carries two marks.
- Answer all question from section C, each question carries three marks

Section A

05X01 = 05 Marks

Q1. In the given option which pencil will be the Softer.
(A) H (B) 2H
(C) B (D) 2B

Q2. The Representative factor for enlarging scale is
(A) Equal to 1 (B) Always greater than 1
(C) A&B Both (D)None of them

Q3. SI unit for linear dimension is
(A) Centimeter (B) Millimeter
(C) Meter (D)None of them

Q4. Which one will be the size for A3 Sheet in millimeter?
(A) 420x297 (B) 29.7x21.0
(C) 297x210 (D) 594x841

Q5. What is the significance of alternate long and short dash line in technical drawing?
(A) Outlines of the object (B) Hidden surface
(C) A&B Both (D) line of symmetry

Section B

03X02 = 06 Marks

Q6. An object of length 2 feet is drawn on a size of 20mm calculate the R.F.

Q7. Write down any two type of line and their application?

Q8. What do you understand by drawing differentiate artistic drawing and technical drawing?

Section C

03X03 = 09 Marks

Q9. What do you mean by RF explain with example?

Q10 Explain the type of drawing sheet use in Technical drawing with Proper Diagram?

Q11. Discuss any four type of drawing accessories briefly?

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Course Code: SCS1106
Course Name: Hand Drawing
Instruction:

Time: 1 Hour
Max. Marks: 20

- Answer all questions from section A, each question carries one mark.
- Answer all question from section B, each question carries two marks.
- Answer all question from section C, each question carries three marks

Section A

05X01 = 05 Marks

Q1. In the given option which pencil will be the Softer.
(A) H (B) 2H
(C) B (D) 2B

Q2. The Representative factor for enlarging scale is
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Section B

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Answer Key

School of Woodworking Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, 1st Sem,

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Answer key

Course Code: SCS1106 **Time: 1 Hour**
Course Name: Hand Drawing **Max. Marks: 20**
Instruction:

- Answer all questions from section A, each question carries one mark.
- Answer all question from section B, each question carries two marks.
- Answer all question from section C, each question carries three marks

Section A

05X01 = 05 Marks

Q.1 In the given option which pencil will be the Softer?
(A) H (B) 2H
(C) B (D) 2B (D)

Q.2 The Representative factor for enlarging scale is
(A) Equal to 1 (B) Always greater than 1
(C) A&B Both (D)None of them (B)

Q.3 SI unit for linear dimension is
(A) Centimeter (B) Millimeter
(C) Meter (D)None of them (C)

Q.4 Which one will be the size for A3 Sheet in millimeter?
(A) 420x297 (B) 29.7x21.0
(C) 297x210 (D) 594x841 (A)

Q.5 What is the significance of alternate long and short dash line in technical drawing?
(A) Outlines of the object (B) Hidden surface
(C) A&B Both (D) line of symmetry (D)

Section B

03X02 = 06 Marks

Q.6 An object of length 2 feet is drawn on a size of 20mm calculate the RF

Ans. Representative Factor (RF) $= \frac{Drawing\ length\ of\ an\ object}{Actual\ length\ of\ an\ objecth}$

Actual length of an object = 2 feet = 2x12x25.4 mm
Drawing length = 20mm

$$R_f = \frac{20}{2\text{x}12\text{x}25.4\ \text{mm}} = 0.0328$$

Q.7 Write down any two type of line and their application?

Ans. **Lines**

It is one important aspect of technical drawing. Lines are always used to construct meaningful drawings. Various types of lines are used to construct drawing, each line used in some specific sense. Lines are drawn following standard conventions mentioned in BIS (SP46:2003). A line may be curved, straight, continuous, segmented. It may be drawn as thin or thick. A few basic types of lines widely used in drawings are shown in Table

Types of lines used in engineering drawing.

Illustration	Application
Thick	Outlines, visible edges, surface boundaries of objects, margin lines
Continuous thin	Dimension lines, extension lines, section lines leader or pointer lines, construction lines, boarder lines
Continuous thin wavy	Short break lines or irregular boundary lines – drawn freehand
Continuous thin with zig-zag	Long break lines
Short dashes, gap 1, length 3 mm	Invisible or interior surfaces
Short dashes	Center lines, locus lines Alternate long and short dashes in a proportion of 6:1,
Long chain thick at end and thin elsewhere	Cutting plane lines

Q.8 What do you understand by drawing differentiate artistic drawing and technical drawing?

Ans A drawing is a graphical representation of an idea or an imagination on a piece of paper with or without technical specification.

An artistic drawing is drawn by free hand it not requires any technical details like (Dimension, tolerances etc.) while in technical drawing technical details such as dimensions, angle of projection, tolerances etc. are required to mention.

Section C

03X03 = 09 Marks

Q.9 What do you mean by RF explain with example?

Ans. **Representative factor:** It is a fraction by which an object can be enlarged or reduced on a drawing sheet.

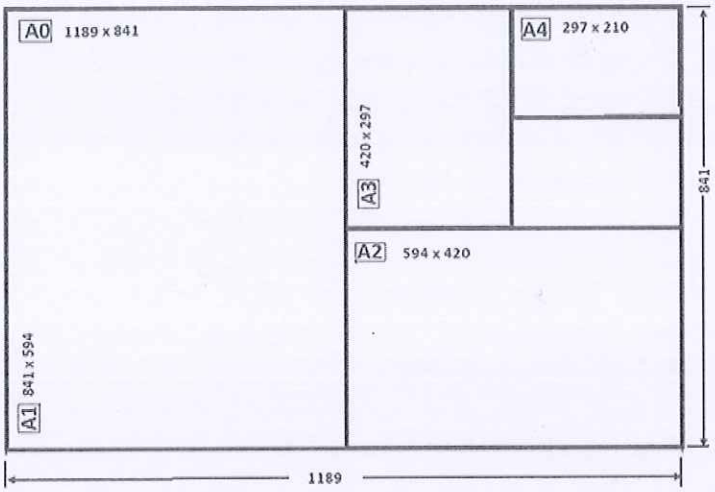
Example There is a wide variation in sizes of engineering objects. Some are very large such as aero plane, rockets, etc. and some are very small such as electrical components, wrist watch etc. so it is very difficult to draw the object to its actual size on a drawing sheet hence it is required to enlarge and reduced an object on a sheet. Some objects can be drawn to its actual size.

Q.10 Explain the type of drawing sheet use in Technical drawing with Proper Diagram.

Ans. **Drawing Sheet:** Drawing sheet is the medium on which drawings are prepared by means of pencils or pen.

According to the BIS standard size of drawing sheet are as follows

S. No.	Designation	Size
1.	A_0	1189x841
2.	A_1	841x594
3.	A_2	594x420
4.	A_3	420x297
5.	A_4	297x210



Q.11 Discuss any four type of drawing accessories briefly?

Ans. **1.Drawing Board**

Drawing board is made of soft wooden platens on which drawing sheets are placed and drawings are drawn with ease.

S. No.	Designation	Size
1.	D_0	1500x1000
2.	D_1	1000x700
3.	D_2	700x500
4.	D_3	500x500

2.Drawing Sheet

Drawing sheet is the medium on which drawings are prepared by means of pencils or pen.

S. No.	Designation	Size
1.	A_0	1189x841
2.	A_1	841x594
3.	A_2	594x420
4.	A_3	420x297
5.	A_4	297x210

3.Mini-drafter

This is a device used to draw parallel or inclined lines very effectively with ease. This is mounted on the top left corner of the drawing board by means of a clamping mechanism which is an integral part of the device.

4.Set squares

Set squares are a set of 45° set square and 30°-60° set-square, as shown in figure

5.Compasses

These are used to draw arcs or circles. Generally, two sizes of compasses: one large compass and the other a small spring bow compass are commonly found. Each compass consists of a needle point and a pencil point. For drawing very large radius arcs, the pencil point leg can be removed from the knee joint and a lengthening bar can be inserted to increase the radius of the arc. Figure 4 shows the photograph of a compass.

5.Divider

Dividers are used to transfer lengths to the drawings either from scales or from the drawing itself. Similar to the compasses, two sizes of dividers are used in technical drawings. One large divider and the other small spring bow divider.

6.Pencils / lead sticks/ pencil sharpener / eraser/etc:

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