



SCHOOL OF CARPENTER SKILLS

II IN - SEMESTER EXAMINATION – 2018

IST & IIND SEMESTER, WINTER SEMESTER

Course Code: SCS1005

Time: 1 Hour

Course Name: Assembly

Max Marks: 20

Instructions:

- 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.

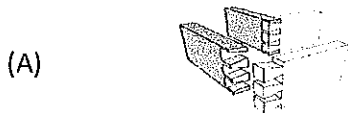
Section – A

5 × 1 = 05 Marks

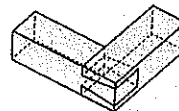
Q 1. Which one of the following is permanent assembly?

- (A) Lamello joints (B) fastening screw (C) Lamello Joints with glue (D) Dowel

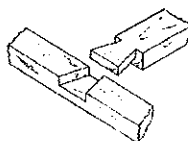
Q 2. Which one of the following is “half lapped dovetail joint”?



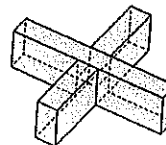
(B)



(C)



(D)



Q 3. Which one of the following signs is helpful in assembly?

- (A) zig zag lines (B) tringle (C) snack line (D) cross

Q 4. Which one of the following lamello biscuits can be used on 8 mm MDF board?

- (A) 20 (B) 10 (C) 0(Zero) (D) 40

Q 5. Which one of the following machines we used for lamello biscuit 20?

- (A) Classic X (B) zeta P2 (C) Domino (D) Circular saw

Section – B

3 × 2 = 06 Marks

- Q 6. Explain the significance of tringle sign with an example.
- Q 7. Explain the gluing process by using lamello in carpenter assembly.
- Q 8. What is dry gluing process? Why do we use this process before gluing?

Section – C

3 × 3 = 09 Marks

- Q 9. Explain various types of joints used in carpentry.
- Q 10. Describe various types of joinery methods.
- Q 11. Find out the measurements of the dovetail where length of board is 150mm, width is 100mm thickness is 20 mm and dovetail teeth length is $X = 20$ mm, find out following.
- (A) No. of teeth
 - (B) Equal distance between teeth
 - (C) Thickness of first teeth.



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ANSWER KEY

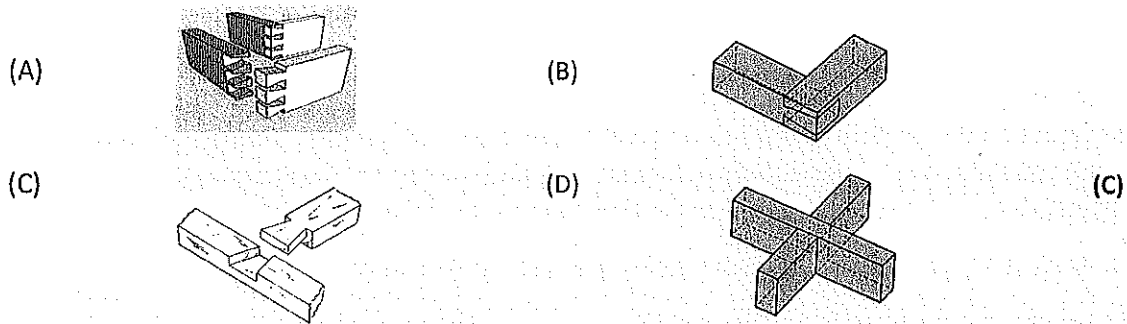
Section – A

5 × 1 = 05 Marks

Q 1. Which one of the following is permanent assembly?

- (A) Lamello joints (B) fastening screw (C) Lamello Joints with glue (D) Dowel (C)

Q 2. Which one of the following is “half lapped dovetail joint”?



Q 3. Which one of the following signs is helpful in assembly?

- (A) zig zag lines (B) triangle (C) snack line (D) cross (B)

Q 4. Which one of the following lamello biscuits can be used on 8 mm MDF board?

- (A) 20 (B) 10 (C) 0(Zero) (D) 40 (C)

Q 5. Which one of the following machines we used for lamello biscuit 20?

- (A) Classic X (B) zeta P2 (C) Domino (D) Circular saw (A)

Section – B

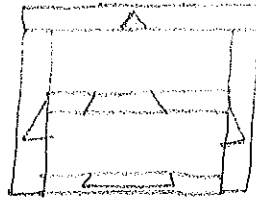
3 × 2 = 06 Marks

Q 6. Explain the significance of tringle sign with an example.

Ans. Tringle sign is used for assembly purpose. We used this sign as an identification of the part. This tringle making process follows some following points:

1. We always make tringle according to front view of the drawing.
2. If it is not possible to make tringle sign on all parts in front view than only we go for top or side view.
3. This is not necessary to complete the tringle sign always. (in case of less no. of component)
4. Tringle sign should always come on the corners of work piece.

EXAMPLE:



Q 7. Explain the gluing process by using lamello in carpenter assembly.

Ans. In the gluing process by using lamello in assembly, after making groove in all pieces first we will glue all the biscuits on the thickness side of the pieces and then we glued all the side pieces on the bottom of the box and will clamp it for 3 to 4 hours. During the clamping we will use some waste pieces between final piece and clamp which will prevent final piece to damages and also remove all the extra glue from inside of the box with wet cotton.

Q 8. What is dry gluing process? Why do we use this process before gluing?

Ans. process in which we follow whole gluing process without using glue in it is called gluing process.

We used this process for following purpose.

1. To check errors in the assembly.
2. To check the positioning of the pieces.
3. To check all availability.

Section – C

3 × 3 = 09 Marks

Q 9. Explain various types of joints used in carpentry.

Ans. 1. Bridle joint: This joint is also called Tenon joint. This joint is where the through mortise is open on one side and forms a fork shapes.

2. Mitre joint: This joint is similar to butt joint, but both pieces have been bevelled (usually at a 45-degree angle)
3. Dovetail joint: A form of box joint where the finger are locked together by diagonal cuts.
4. Housing joint: A slot is cut across the grain in one piece for another piece to cut in to.
5. Groove joint: This joint is also like the housing joint except that the slot is cut with the grains.
6. Mortise and Tenon joint: A stub will fit tightly in to a hole cut to it. This is a traditional method to joint frame and panel members in door.

Q 10. Describe various types of joinery methods.

Ans. 1. Gluing: In the gluing process by using lamello in assembly, after making groove in all pieces first we will glue all the biscuits on the thickness side of the pieces and then we glued all the side pieces on the bottom of the box and will clamp it for 3 to 4 hours.

2. Nailing: In the nailing process we can nail parts together by using different nails.

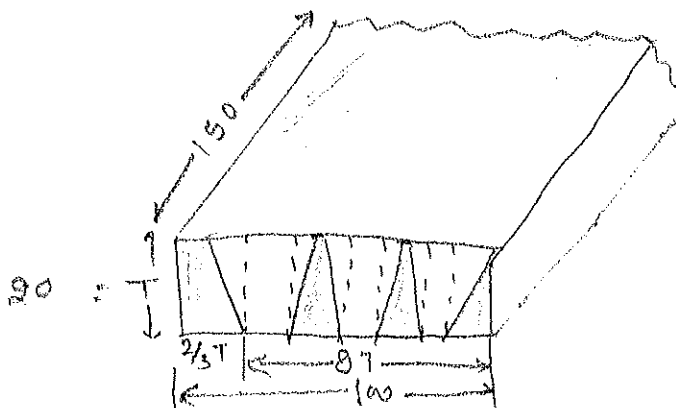
3. biscuit joinery: In biscuit joinery system we can joint two parts together by using lamella biscuit joints.

4. Domino joinery system: In the domino joinery system we can joint to parts together by using domino joints.

Q 11. Find out the measurements of the dovetail where length of board is 150mm, width is 100mm thickness is 20 mm and dovetail teeth length is $X = 20$ mm, find out following.

- (A) Thickness of first teeth.
- (B) No. of teeth
- (C) Equal distance between teeth

Ans.



(A) Thickness of First teeth = $2 \times T / 3 = 2 \times 20 / 3 = 13.3$

(B) No. of teeth = Rest Distance / $2T = 87 / 2 \times 20 = 2.175 = 3$ teeth

(C) Equal distance between teeth = $87 / 3 = 29$ mm

Registration No:



SCHOOL OF CARPENTER SKILLS

II IN - SEMESTER EXAMINATION – 2018

IST & IIND SEMESTER, WINTER SEMESTER

Course Code: SCS1007

Time: 1 Hour

Course Name: Carpenter Mathematics

Max Marks: 20

Instructions:

- 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

5 × 1 = 05 Marks

Q 1. Which one of the following is the area of trapezoid?

(A) $\frac{b(a+h)}{2}$

(B) $\frac{h(a-b)}{2}$

(C) $\frac{h(a+b)}{2}$

(D) $\frac{a(b+h)}{2}$

Q 2. Which one of the following is the volume of cylinder, were "r" is radius and "h" is height of the cylinder?

(A) $V = 2\pi r^2 h$

(B) $V = \pi R^2 h$

(C) $V = \pi r^2 h^2$

(D) $V = \pi r^2 h$

Q 3. How many inches are there in 1.5 meter?

(A) 60.80 inch

(B) 58.9 inch

(C) 59.05 inch

(D) 61 inch

Q 4. Which thickness is not available in case of MDF board.

(A) 18 mm

(B) 36 mm

(C) 26 mm

(D) 21 mm

Q 5. Which one of the following is the Conversion Scientific notation conversion of 0.00001?

(A) 10^5

(B) 10^{-5}

(C) 10^6

(D) 10^{-6}

Section – B

3 × 2 = 06 Marks

Q 6. Calculate the surface area of a cube having length of face 50 mm.

Q 7. 3 carpenters work 8 hours daily for 5 days to complete a cabinet, if the same work is assigned to 5 carpenters with same working hours then how many days they will take to complete same the cabinet.

Q8. A door having length 4 feet and height 75 inch is going to be laminated on both the side. Calculate the lamination area in millimetre.

Section – C

3 × 3 = 09 Marks

Q 9. Ram purchased a table in 3600 Rs and sold it with 18% profit. find out the selling price, if Ram wants to earn double of its profit by keeping selling price same what should be the purchasing price.

Q 10. A cabinet having total height of 2000mm having 3 shelves inside with equal space. Calculate distance between shelves when whole cabinet is made by 18 mm thickness MDF board.

Q 11. If the circumference of the tree timber is 628 mm, calculate how many flat boards of 20 mm thickness can be prepared.

Registration No:



SCHOOL OF CARPENTER SKILLS

II IN - SEMESTER EXAMINATION – 2018

IST & IIND SEMESTER, WINTER SEMESTER

Course Code: SCS1007

Time: 1 Hour

Course Name: Carpenter Mathematics

Max Marks: 20

ANSWER KEY

Instructions:

- 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

5 × 1 = 05 Marks

Q 1. Which one of the following is the area of trapezoid?

- (A) $\frac{b(a+h)}{2}$ (B) $\frac{h(a-b)}{2}$ (C) $\frac{h(a+b)}{2}$ (D) $\frac{a(b+h)}{2}$ (C)

Q 2. Which one of the following is the volume of cylinder, were "r" is radius and "h" is height of the cylinder?

- (A) $V = 2\pi r^2 h$ (B) $V = \pi R^2 h$ (C) $V = \pi r^2 h^2$ (D) $V = \pi r^2 h$ (D)

Q 3. How many inches are there in 1.5 meter?

- (A) 60.80 inch (B) 58.9 inch (C) 59.05 inch (D) 61 inch (C)

Q 4. Which thickness is not available in case of MDF board.

- (A) 18 mm (B) 36 mm (C) 26 mm (D) 21 mm (D)

Q 5. Which one of the following is the Conversion Scientific notation conversion of 0.00001?

- (A) 10^5 (B) 10^{-5} (C) 10^6 (D) 10^{-6} (B)

Section - B

3 × 2 = 06 Marks

Q 6. Calculate the surface area of a cube having length of face 50 mm.

$$\text{Surface Area of one face} = 50 \times 50 = 2500 \text{ mm}^2$$

$$\text{Total No. of faces in a Cube} = 6$$

$$\text{Total Area} = 2500 \times 6 = 15000 \text{ mm}^2 = 15 \times 10^3 \text{ mm}^2$$

Q 7. 3 carpenters work 8 hours daily for 5 days to complete a cabinet, if the same work is assigned to 5 carpenters with same working hours then how many days they will take to complete same the cabinet.

Ans

$$\text{Total working hours required for object} =$$

$$= 3 \times 8 \times 5 = 120 \text{ hours.}$$

for Carpenters 8 hours daily; let say = x days required

$$5 \times 8 \times x = 120 \Rightarrow x = 3 \Rightarrow 3 \text{ days required.}$$

Q 8. A door having length 4 feet and height 75 inch is going to be laminated on both the side. Calculate the lamination area in millimetre.

$$4 \text{ feet} = 1219.2 \text{ mm}$$

$$75 \text{ Inch} = 1905.0 \text{ mm}$$

$$\text{Area} = L \times W = 1219.2 \times 1905 = 2322576.00 \text{ mm}^2$$

(for one side)

$$\text{for two side lamination} = 2 \times 2322576.00 = 4645152 \text{ mm}^2$$

Section - C

3 × 3 = 09 Marks

Q 9. Ram purchased a table in 3600 Rs and sold it with 18% profit. find out the selling price, if Ram wants to earn double of its profit by keeping selling price same what should be the purchasing price.

$$18\% \text{ of } 3600 = 3600 \times \frac{18}{100} = 648 \text{ Rs.}$$

$$\text{So Selling price would be} = 648 + 3600 = 4248 \text{ Rs.}$$

$$\text{let the purchasing price} = x$$

$$\text{So, } x + x \times \frac{36}{100} = 4248$$

$$x \left(1 + \frac{36}{100} \right) = 4248$$

$$x = 3123.52$$

So the purchasing price will be

$$= 3123.52 \text{ Rs}$$

Ans

Q 10. A cabinet having total height of 2000mm having 3 shelves inside with equal space. Calculate distance between shelves when whole cabinet is made by 18 mm thickness MDF board.

$$\begin{aligned} \text{Total thickness covered by 3 Shelf + top + Bottom,} \\ = 18 \times 5 = 90 \text{ mm.} \end{aligned}$$

$$\begin{aligned} \text{Total height} &= 2000 \text{ mm} - 90 \text{ mm} \\ &= 1910 \text{ mm} \end{aligned}$$

Cabinet with 3 shelf ~~with~~ having 4 equal space in it.

$$\Rightarrow \frac{1910}{4} = \underline{477.5 \text{ mm}} \text{ Ans}$$

Q 11. If the circumference of the tree timber is 628 mm, calculate how many flat boards of 20 mm thickness can be prepared.

$$\text{Circumference} = 2\pi r$$

$$628 = 2\pi r$$

$$r = \frac{628}{2\pi} = 100 \text{ mm.}$$

Diameter of tree timber = $100 \times 2 = \underline{200 \text{ mm}}$
for flat board of 20 mm thickness.

$$\Rightarrow \frac{200}{20} = 10$$

upper layer and lower layer need to remove due to maintain thickness.

$$\text{Total flat parts} = \underline{9}$$





SCHOOL OF CARPENTER SKILLS
II IN - SEMESTER EXAMINATION – 2018
IST & IIND SEMESTER, WINTER SEMESTER

Course Code: SCS1008

Time: 1 Hour

Course Name: Hand Drawing

Max Marks: 20

Instructions:

- 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

5 × 1 = 05 Marks

Q 1. How many units can be calculated by diagonal scale?

- (A) 1 (B) 2 (C) 3 (D) 4

Q 2. Which one of the following is the centre line?

- (A)  (B) 
- (C)  (D) 

Q 3. Which one of the following projection is not used in projection method?

- (A) First angle (B) Second angle (C) third angle (D) None of these

Q 4. Original dimension of the object is 500 mm and it is in drawing of 250. What will be the scale ratio?

- (A) 1:1 (B) 1:2 (C) 2:1 (D) None of these

Q 5. Which one of the following angle of projection follows sequence of Observer - plan of projection – object?

- (A) First angle of projection (B) Second angle of projection
- (C) third angle of projection (D) Fourth angle of projection

Section – B

3 × 2 = 06 Marks

- Q 6. Discuss various tools used in hand drawing.
- Q 7. Describe various types of lines used in hand drawing.
- Q 8. Differentiate between half section view and full section view.

Section – C

3 × 3 = 09 Marks

- Q 9. Draw Front, Top, Side & Axonmetry view for "Half lap joint".
- Q 10. Discuss various types of views used in drawing with examples.
- Q 11. Make a hand drawing for the object given in the examination.



SCHOOL OF CARPENTER SKILLS

II IN - SEMESTER EXAMINATION – 2018

IST & IIND SEMESTER, WINTER SEMESTER

Module Code: SCS1008

Time: 1 Hour

Module Name: Hand Drawing

Max Marks: 20

ANSWER KEY

Instructions:

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- Answer all question from section B, each question carries two marks.
- Answer all question from section C, each question carries three marks.





Section – A

5 × 1 = 05 Marks

Q 1. How many units can be calculated by diagonal scale?

- (A) 1 (B) 2 (C) 3 (D) 4 (B)

Q 2. Which one of the following is the centre line?

- (A)  (B) 
- (C)  (C)  (C)

Q 3. Which one of the following projection is not used in projection method?

- (A) First angle (B) Second angle (C) third angle (D) None of these (B)

Q 4. Original dimension of the object is 500 mm and it is in drawing of 250. What will be the scale ratio?

- (A) 1:1 (B) 1:2 (C) 2:1 (D) None of these (B)

Q 5. Which one of the following angle of projection follows sequence of Observer - plan of projection – object?

- (A) First angle of projection (B) Second angle of projection
- (C) third angle of projection (D) Fourth angle of projection (C)

Section – B

3 × 2 = 06 Marks

Q 6. Discuss various tools used in hand drawing.

Ans. 1. Measuring tools:

2. Marking tools:

Q 7. Describe various types of lines used in hand drawing.

Ans. 1. Continuous Thick line: This line is used for visible out line and visible Edges

2. Continuous thin or straight curve line: This line is used for Imaginary lines of intersection, dimension line, projection line, leader line, hatching line, short centre line.

3. Continuous thin freehand: This line is used for limits of partial or interrupted views and section.

4. Dashed thick line: This line is used for Hidden outline and hidden edges.

5. Dashed thin line: This line is used for hidden out line and hidden edges.

6. Chain thin: This line is used for centre lines and lines of symmetry.

Q 8. Differentiate between half section view and full section view.

Ans. 1. In full section view cut section is done across centre line and in half section view cut section is done across quarter part.

2. In full section cutting plane passes through the entire object and in half section cut through only half of the object.

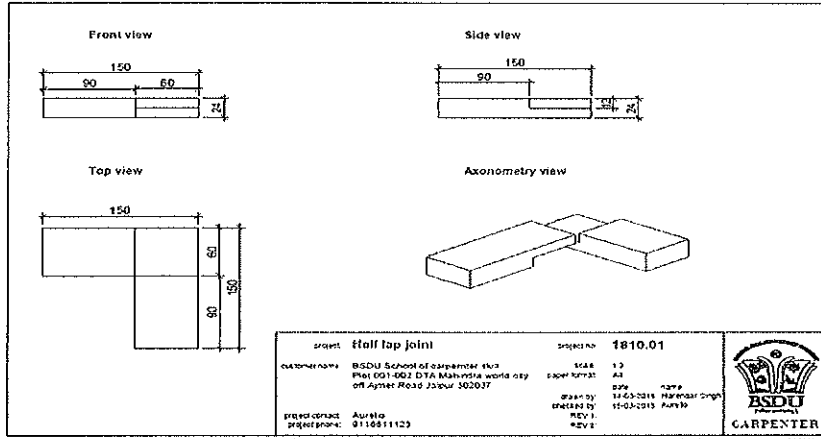
3. half section view is effective only on symmetrical object and full section view is effective on non-symmetrical object.

4. in half section internal and external construction is shown in a same drawing and in full section internal and external construction are shown in different drawing.

Section – C

3 × 3 = 09 Marks

Q 9. Draw Front, Top, Side & Axonometry view for "Half lap joint".



Drawing no. 1.1

Q 10. Discuss various types of views used in drawing with examples.

Ans. Top view, Front view, side view.

Example: refer Drawing no. 1.1

Q 11. Make a hand drawing for the object given in the examination.

(1)

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Handwritten scribble or mark on the right side of the page, including a small circle.

Large, dense handwritten scribble or mark at the bottom of the page.