

Unit 7 - Week 5

Course outline

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● Lecture 22 : Design of a seeding equipment: PART -2

● Lecture 23 : Design of a seeding equipment: PART -3

● Lecture 24 : Design a tractor drawn seed drill for a 40 hp tractor-I

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-04, 23:59 IST.

1) Polar moment of inertia (Q_i) for a rectangular cross section with frame (thickness t , length a and width b) as

- $Q_i = 5t(a-t)(b-t)$
- $Q_i = 2t(a-t)(b-t)$
- $Q_i = 2t(a-t)^2$
- $Q_i = 5t(a-t)^2$

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

2 points

2) As per the BIS Standards 6813 : 2000, the percentage of visible damage to seeds in a tractor operated seed drill should not exceed by

- 5 %
- 0.5 %
- 2.5 %
- 10 %

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

2 points

3) A tractor operated seed drill operated at a speed of 3.5 km/h is having a sweep type furrow openers. If the depth of furrow is 50 mm and thickness of tine is 40 mm then the spacing between furrow openers is given by (Assume: angle of furrow, $\delta = 45^\circ$ and distance between furrow, $\Delta t = 50$ mm)

- 210 mm
- 180 mm
- 200 mm
- 190 mm

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

2 points

4) The coefficient of filling (ξ) of flutes in a fluted roller type seed metering mechanism with perpendicular feeding ranges between

- 0.10 to 0.50
- 0.50 to 0.70
- 0.70 to 0.85
- 0.85 to 1.00

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

2 points

5) A tractor operated seed drill having fitted with a fluted roller type metering mechanism has a ground wheel with 500 mm diameter. If the linear spacing of seeds on the ground 10 cm and gear reduction ratio between ground wheel and metering mechanism is 1.5, then the number of flutes on the metering mechanism is given by

- 9
- 11
- 13
- 15

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

2 points

6) A tractor drawn seed drill has a seed hopper of volume 0.30 m^3 , bottom width of 250 mm, length of seed hopper as 1.5 m. If the side wall is making an angle of 15° with the vertical, then the height (h) and top width (w) of the hopper are given by

- $h = 0.51 \text{ m}$ and $b = 0.53 \text{ m}$
- $h = 0.53 \text{ m}$ and $b = 0.51 \text{ m}$
- $h = 0.51 \text{ m}$ and $b = 0.43 \text{ m}$
- $h = 0.43 \text{ m}$ and $b = 0.53 \text{ m}$

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

2 points

7) The seed uniformity test for a metering device is known as :

- Calibration method
- Hit and try method
- Sticky belt method
- None of the above

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

2 points

8) In an equivalent stress equation, the values of coefficients K_b and K_t for gradually applied load are given respectively by

- 2.0 and 2.5
- 1.5 and 2.0
- 0.5 and 1.0
- 1.0 and 1.2

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

2 points

9) While designing the frame of a seed drill, the force considered is known as

- Torsion force
- Bending force
- Torsion and bending force
- Soil force

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

2 points

10) As per the BIS Standards, the variation in seed dropping due to box filling at 1/4, 1/2 and 3/4 of rated capacity shall not exceed

- 15%
- 20%
- 25%
- 30%

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

0 points