

MAGDALINE COACHING CENTRE (mc²)
AGRICULTURE ENGINEERING (PAPER 2)

1. The first butterfly valve of carburetor that control the flow
 - a. **air fuel mixture**
 - b. fuel supply
 - c. oil supply
 - d. all of the above

2. In singly reinforced beams, steel reinforcement is provided in
 - a. **tensile zone**
 - b. compressive zone
 - c. both compressive and tensile zone
 - d. None of the above

3. In a T- beam, the breadth of the rib is equal to the
 - a. total thickness of the slab, including cover
 - b. width of the portion of the beam in the compression zone
 - c. **width of the portion of the beam in the tensile zone**
 - d. none of the above

4. The diameter of longitudinal bars in a column should not be less than
 - a. 4 mm
 - b. 8 mm
 - c. **12 mm**
 - d. 16 mm

5. The “knock mechanism” is associated to
 - a. **Planter**
 - b. seed drill
 - c. cultivator
 - d. disc plough

6. in swinging drawbar, the hinge point at the front end, represents
 - a. **centre of tractor pull**
 - b. centre of draft
 - c. centre of resistance
 - d. centre of power

7. A low speed of thresher fan causes the problem of
 - a. **coming of grains along with straw**
 - b. less grain yield
 - c. less threshing efficiency
 - d. all of the above

8. In combine, the threshing of crop is done between
 - a. header and reel
 - b. **Concave and cylinder**
 - c. header and concave
 - d. reel and cylinder

9. Drag link is the component of
 - a. clutch system
 - b. fuel supply system
 - c. transmission system
 - d. **steering system.**

10. An undesirable cyclic fluctuation of energy output to input in an engine is controlled by
 - a. Governor
 - b. connecting rod
 - c. **flywheel**
 - d. rotavator

11. As per ASAE standards the diameter of the 1000 rpm PTO shaft with 20 splines is
 - a. 30 mm
 - b. 35 mm
 - c. 40 mm
 - d. **45 mm**

12. The use of a pressurized radiator cap in forced circulation of water cooling system in tractor engines help in
 - a. reducing the evaporation losses
 - b. increasing the engine operating temperature

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c. increasing the boiling temperature of water

d. increasing the radiator cooling capacity

13. Lugging ability of a tractor is defined as

a. Torque at the highest power

b. Torque at the highest point of torque curve

c. highest torque at lowest speed

d. difference between torques at i& ii states

14. while ballasting using liquid in the inner tube% of liquid filling is recommended

a. 25

b. 50

c. 75

d. 40

15. A tillage system in which isolated bands of soil are tilled

a. strip tillage

b. mulch tillage

c. minimum tillage

d. rotary tillage

16. In zero tillage practice the type of furrow opener used is

a. shoe type

b. shovel type

c. inverted T type

d. disc type

17. According to BIS area required for testing of tractor puddler is

a. 1 ha

b. 0.5 ha

c. 2.5 ha

d. 0.25 ha

18. The metering mechanism of seed drill is driven by the ground wheel at a velocity of 1:2. When the forward speed of the seed drill is increased from 3-3.45 kmph, the seed rate would be

a. increased by 15 %

b. decreased by 15 %

c. decreased by 13 %

d. remains same

19. In potato planters, the type of seed metering mechanism used is

a. cell feed mechanism

b. star wheel mechanism

c. brush feed mechanism

d. picker wheel mechanism

20. ULV spraying is used for

a. minimizing drift

b. reduce application rate

c. aerial spraying

d. spot application

21. Discharge rate of foot sprayer

a. 1200 ml/min

b. 500 ml/min

c. 300 ml/min

d. 800 ml/min

22. Registration of cutter bar means

a. centre of knife must stop in the centre of its guard on each stroke

b. centre of knife should be ahead of guard

c. centre of knife should be behind the guard

d. centre of knife should be at the end of the guard

23. In tractor mounted conveyor reaper the crop is guided by

a. Flywheel

b. guard

c. pressure spring

d. star wheel

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24. In thresher, the spikes are the parts of

- a. cleaning unit
- b. concave
- c. cylinder drum**
- d. separator

25. The threshed grain received from all the outlet with respect to the total grain input is known as

- a. Threshing efficiency**
- b. cleaning efficiency
- c. shattering loss
- d. none of these

26. The defect caused by imperfect seasoning is

- a. wet rot
- b. dry rot
- c. honey combing**
- d. cup shake

27. The moisture content in timber for framework should not exceed

- a. 5 %
- b. 10 %
- c. 15%**
- d. 18%

28. The base material in distemper is

- a. chalk**
- b. lime
- c. clay
- d. lime putty

29. Which of the following brick is used for lining of furnaces ?

- a. overburnt bricks
- b. first class bricks
- c. underburnt bricks
- d. refractory bricks**

30. The process of mixing clay, water and other ingredients to make bricks is known as

- a. kneading**
- b. moulding
- c. pugging
- d. drying

31. In a highly capacitive circuit the

- a. apparent power is equal to actual power
- b. reactive power is more than apparent power
- c. reactive power is more than actual power**
- d. actual power is more than its reactive power

32. The power factor of a DC circuit is always

- a. less than unity
- b. unity**
- c. greater than unity
- d. zero

33. In close mesh type fencing the wire used is

- a. plane
- b. galvanized
- c. hexagonal woven**
- d. all of the above

34. Pure inductive circuit takes power from the AC line when

- a. applied voltage decreases but current increases**
- b. applied voltage increases but current decreases
- c. both applied voltage and current increases
- d. both applied voltage and current decreases

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35. In wire floor poultry house the wire used is

- a. 8-10 gauge
- b. 10-12 gauge
- c. 12-14 gauge**
- d. 14-16 gauge

36. Fire bricks are used for

- a. decreasing heat flow**
- b. heat resistance
- c. increasing heat flow
- d. both a & b

37. The usual span of RCC poles are

- a. 40-50 metres
- b. 60-100 metres
- c. 200-300 metres
- d. 80-150 metres**

38. Low tension cables are meant for use upto

- a. 1 kV**
- b. 5 kV
- c. 10 kV
- d. 33 kV

39. The compression rings mounted on the pistons are generally made of

- a. low carbon steel
- b. aluminium
- c. high carbon steel
- d. chromium**

40. What is the mechanical power developed by a DC series motor is maximum?

- a. Back emf is equal to half applied voltage**
- b. Back emf is equal to applied voltage
- c. back emf is equal to zero
- d. none of the above

41. Pump use in the inline injection system is driven by

- a. crankshaft
- b. camshaft**
- c. belt pulley
- d. both a & b

42. The first I.C. engine was invented by

- a. Nikolaus Otto**
- b. James Watt
- c. Hudson
- d. Norman

43. API degree of petrol, is

- a. 63**
- b. 100
- c. 75
- d. 22

44. The term "Ferrule" is associated to

- a. reaper
- b. mower
- c. sickle**
- d. thresher

45. In I.C. engines, the gap setting of spark plug, is kept between

- a. 1.0 and 1.2 mm
- b. 0.5 and 0.85 mm**
- c. 0.1 and 0.2 mm
- d. 1.5 and 1.8 mm

46. Olpad threshers is operated by

- a. tractors
- b. man
- c. electric motor
- d. bullock**

47. Which of the following is not a secondary tillage implement?

- a. harrow
- b. bund former**
- c. Bakhar

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d. hoe

48..Air blast sprayer is used for

- a. Gardens
- b .Field crops
- c. Orchards**
- d. Nursery

49.Flash fire test is associated to

- a.fuel test
- b.petrol test
- c.lubrication quality**
- d. efficiency of engine

50.The measure of oils resistance to flow

- a. Flash point
- b.viscosity**
- c. fire point
- d. all of the above

51.split shell bearings are attached on

- a.camshaft
- b.crankshaft**
- c.piston
- d.flywheel

52.firing order of 4 stroke 4 cylinder S.I engine

- a.1-2-3-4
- b.1-3-4-2**
- b.1-4-2-3
- d. none of the above

53.The push rod is located between

- a.valve and rocker arm
- b. tappet and rocker arm**
- c.tappet and cam shaft
- d. valve and cam shaft

54.In constant mesh transmission gears use to control noise is

- a. spur gear
- b. helical gear**

- c. bevel gear
- d.spiral gear

55. The comparative strength of tyre is indicated by

- a. ply rating**
- b. size and tyre width
- c. thickness and material for construction
- d. all of the above

56.Torque transmitted during turning of tractor is in outer wheel when one wheel is completely stopped

- a. half
- b. one third
- c. double**
- d. remain same

57. The temperature at which the fuel burns for 5 seconds

- a. cloud point
- b. flash point
- c. pour point
- d. fire point**

58. The calorific value of High speed diesel (HSD)

- a. 10000 kcal/kg
- b. 10550 kcal/kg**
- c. 11100 kcal/kg
- d. 11650 kcal/kg

59. Hit & Miss system of governor is mostly used in

- a. Gas engines**
- b. Tractors
- c. motor car
- d. Diesel engines

60. A pump in which the piston travel is parallel to the axis of the pump is called as

- a. axial piston pump**

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- b. co-axial piston pump
- c. tangential pump
- d. parallel pump

61. All internal combustion engines are equipped with

- a. battery ignition system
- b. magneto ignition system**
- c. spark ignition system
- d. none of the above

62. The dimensions of kinematic viscosity can be expressed as

- a. $M^0L^0T^{-2}$
- b. ML^0T^{-1}
- c. M^0LT^{-1}**
- d. ML^2T^2

63. The basic engine part to which all other accessories are attached

- a. cylinder block**
- b. cylinder
- c. connecting rod
- d. flywheel

64. The firing interval of two stroke engine is

- a. $120^\circ/\text{number of cylinders}$
- b. $180^\circ/\text{number of cylinders}$
- c. $360^\circ/\text{number of cylinders}$**
- d. $720^\circ/\text{number of cylinders}$

65. Octane rating is the indication of

- a. ignition quality
- b. knocking effect**
- c. both a & b
- d. none of the above

66. Engine power is indicated by

- a. Brake Horse Power**
- b. Indicated Horse Power

- c. Friction Power
- d. all of the above

67. The exhaust gases of which engine has higher temperature ?

- a. petrol engine
- b. diesel engine**
- c. steam engine
- d. both a & b

68. In a fuel property determination, Reid vapour pressure test is used for measuring

- a. volatility
- b. viscosity**
- c. Sulphur content
- d. carbon residue

69. The power developed and the exhaust gas temperature of a diesel engine compared to a spark ignition engine of the same size and running at the same speed respectively are

- a. higher and lower
- d. higher and higher
- c. lower and higher
- d. lower and lower**

70. Which of the following chemical compound can be used for dechlorination of water?

- a. carbon dioxide
- b. bleaching powder
- c. Sulphur dioxide**
- d. chloramines

71. In two pipes system of house plumbing the pipes required are

- a. one soil pipe, one waste pipe and one vent pipes
- b. one soil pipe, two waste pipe and one vent pipe

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c. one soil pipe, one waste pipe and two vent pipe

d. two soil pipes, one waste pipe and one vent pipe

72. chlorine is used in the treatment of sewage to

a. help grease separation

b. aid flocculation

c. increase biochemical oxygen demand

d. cause bulking of activated sludge

73. The maximum efficiency of BOD removal is achieved by

a. oxidation pond

b. oxidation ditch

c. aerated laggons

d. trickling filters

74. Final drive is a gear reduction unit in power trains between differential and

a. gear box

b. hydraulic

c. drive wheels

d. clutch

75. The crank shaft and rear axle of tractor are attached at

a. 90

b. 30

c. 60

d. 45

76. Test code for agricultural tractor is

a. IS : 5994-1998

b. IS : 5994- 1958

c. IS: 5994-1995

d. IS: 5994-1980

77. Angle between the centre line of kingpin of tractor and vertical line

a. camber angle

b. tilt angle

c. caster angle

d. all of the above

78. The voltage generated in spark plug at the time of spark is

a. 300-400 V

b. 100-200 V

c. 1000-5000 V

d. 20000 V

79. The type of fuel injector used into open chamber combustion engines

a. Pintle type

b. single hole type

c. multi hole type

d. both a & b

80. Differential lock in tractor is used to improve

a. Lateral stability

b. Braking performance

c. hydraulic lift

d. traction of a wheel

81. which of the following is not a standard organization for checking fuel quality ?

a. ASTM

b. ASAE

c. SAE

d. API

82. The tractor gear box is an example of

a. simple gear chain

b. compound gear chain

c. epicyclic gear chain

d. reverted gear chain

83. In synchromesh type gear box in tractor, what type of gears are used

a. spur gears

b. helical gears

c. bevel gears

d. spiral gears

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84. The power loss in PTO drive is usually

- a. less than 2 %
- b. less than 5%**
- c. less than 8 %
- d. less than 10 %

85. The purpose of providing a steering brake is

- a. To disengage the clutch
- b. to rotate the clutch drum
- c. To stop the clutch drum from rotating after the clutch has been disengaged**
- d. to engage the clutch

86. In tractor engine the lubricating oil should be changed after every

- a. 50 hours
- b. 100 hours
- c. 120 hours
- d. 250 hours**

87. The minimum angle between the back rest and seat should be

- a. 30 °
- b. 60°
- c. 45°
- d. 90°**

88. The steering column angle should be in the range

- a. 0-10°
- b. 10-20°
- c. 0-40°**
- d. 20-40°

89. The resonant frequency of the tractor with pneumatic tyre lies between

- a. 0-1 Hz
- b. 1-4 Hz**
- c. 5-10 Hz
- d. 10-15 Hz

90. The vibrations induced in power tiller operation varies from

- a. 1-10 Hz
- b. 20-250 Hz**
- c. 8-12 Hz
- d. 15-20 Hz

91. The main shaft of the engine is also called

- a. output shaft
- b. input shaft**
- c. lay shaft
- d. counter shaft

92. Crown wheel is a part of

- a. clutch system
- b. steering system
- c. differential**
- d. none of these

93. Speed reduction ratio of final drives ranges from

- a. 3 to 5:1**
- b. 2 to 5:1
- c. 3 to 6:1
- d. 2 to 4 :1

94. Transmission oil should be changed after

- a. 750 hours**
- b. 800 hours
- c. 1000 hours
- d. 1200 hours

95. A pair of bullock developed power equivalent

- a. 0.5 hp
- b. 1 hp**
- c. 2 hp
- d. 0.8 hp

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96. The low speed engine runs at a speed of

- a. 350 rpm
- b. Less than 350 rpm**
- c. more than 350 rpm
- d. Less than 1000 rpm

97. Fuel pump use in carburetor engines

- a. FI pump
- b. feed pump
- c. gasoline pump**
- d. none of these

98. The lateral stability of four wheel drive tractor in a turning situation can be increased by

- a. Increasing the radius of turn**
- b. increasing the height of centre of gravity
- c. attaching a front end loader
- d. increasing the total weight of tractor

99. A differential in a tractor is provided to work as

- a. compensating device on turns**
- b. gear reduction unit
- c. torque multiplier
- d. all of the above

100. Function of the compensating jet in the carburetor

- a. to regulate the fuel supply to the main jet
- b. to supply leaner mixture at higher speed**
- c. to supply fuel at idling speed or low speed of the engine
- d. all of the above

101. which harrow is also called Bakhar?

- a. disc harrow
- b. spike tooth harrow
- c. spring tooth harrow

d. blade harrow

102. Increasing the frequency of transmission line will

- a. increase shunt capacitance
- b. decrease line resistance
- c. increase line resistance**
- d. decrease line resistance

103. The feeder is design mainly from the point of view

- a. voltage drop in it
- b. operating voltage
- c. operating frequency
- d. its current capacity**

104. In overhead lines we generally use

- a. copper conductors
- b. ACSR conductors**
- c. all aluminium conductors
- d. none of the above

105. Voltage of primary distribution system

- a. 400 V
- b. 33 KV
- c. 230 V
- d. 11 KV**

106. Which of the distribution system is used for domestic loads?

- a. 3-phase 3- wire system
- b. 1-phase 2 wire system**
- c. 3-phase 4- wire system
- d. none of the above

107. The distribution transformer is rated as

- a. kW
- b. KVAR
- b. kVA**
- d. none of the above

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108. An induction motor is preferred over d.c motor because it

- a. provides high starting torque
- b. provides fine speed control
- c. has simple and rugged construction**
- d. all of the above

109. What is the size of the disc in tractor drawn disc harrows ?

- a. 20-30 cm
- b. 30-40 cm
- c. 90-110 cm
- d. 35-70 cm**

110. what is the range of gang angle?

- a. 29-39°
- b. 34-56°
- c. 0-27 °**
- d. 60-90°

111. Which harrow is also known as knife harrow?

- a. Patela
- b. spring tooth harrow
- c. triangular harrow
- d. acme harrow**

112. Which disc harrow has two gangs in tandem and two fitted one behind the other?

- a. tractor drawn
- b. off set**
- c. tandem
- d. double action

113. In which process of seeding, the seeds are placed in the holes made in seed bed and covering them?

- a. broadcasting
- b. transplanting
- c. dibbling**
- d. drilling

114. which of the following is not a type of drilling ?

- a. sowing behind the plough
- b. bullock seed drills
- c. tractor drawn seed drill
- d. check row planting**

115. In which seed metering mechanism, the feed wheel is provided with fine and coarse ribbed flanges ?

- a. fluted wheel type
- b. cell feed type
- c. brush feed type
- d. internal double run type**

116. Which metering mechanism consists of a spoon on the periphery of a vertical rotating disc?

- a. cup feed mechanism**
- b. picker type
- c. cell feed type
- d. brush feed type

117. which seeding method uses malobansa ?

- a. transplanting
- b. seed dropping behind the plough**
- c. hill dropping
- d. check row planting

118. What is the cutting angle range of shovel ?

- a. 15-20°**
- b. 30-45°
- c. 50-60°
- d. 34-40°

119. What is the angle made by three openings at the bottom of the funnel?

- a. 110 °
- b. 100°
- c. 106 °
- d. 120°**

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120. Which cultivators are operated by tractors which are fitted by hydraulic lift?

- a. trail type
- b. mounted type**
- c. cultivator with spring loaded
- d. cultivator with rigid tynes

121. In hands chaff cutters, which of the following is used for changing the speed of feed roll

- a. worm gear**
- b. fly wheel
- c. knife
- d. set screw

122. Number of rollers in animal drawn cane crusher is

- a. 2 only
- b. 3**
- c. 4
- d. more than 4

123. In power operated groundnut decorticator, the 'pawl and ratchet' is the component of

- a. Feeding unit**
- b. shelling unit
- c. cleaning unit
- d. package unit

124. Grinding of farm produce can be done by

- a. Hammer mill
- b. burr grinder
- c. thresher
- d. both a & b**

125. Farm processing includes the operations of

- a. Chaff cutting and grain grinding
- b. cane crushing and grain drying
- c. milk processing
- d. all of the above**

126. Based on dropping position of cut chaff, the fly wheel type chaff cutters may be of

- a. Let fall type
- b. blow-up type
- c. throw away type
- d. all of the above**

127. The approximate ratio between the strength of cement concrete at 7 days and 28 days is

- a. $\frac{3}{4}$
- b. $\frac{2}{3}$**
- c. $\frac{1}{2}$
- d. $\frac{1}{3}$

128. The expected useful annual working hours of power thresher is

- a. 1500
- b. 2000
- c. 2500**
- d. 3000

129. In hand operated sprocket and chain type winnowing fan, the speed can be increased maximum upto

- a. 5 times
- b. 7 times
- c. 6 times**
- d. 8.5 times

130. Which of the following defines the size of power thresher?

- a. Width of cylinder
- b. width of rack
- c. size of feed inlet and grain output
- d. both a & b**

131. The basic components of combine are similar to the

- a. Power thresher**
- b. reaper
- c. mower

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d. all of the above

132. The split tensile strength of M15 grade concrete when expressed as a percentage of its compressive strength is

- a. **10 to 15%**
- b. 15 to 20 %
- c. 20 to 25 %
- d. 25 to 30 %

133. Diameter of disc in olpad thresher is

- a. 50 cm
- b. **45 cm**
- c. 75 cm
- d. 60 cm

134. The output of pedal thresher is

- a. 140 kg/hour
- b. 120 kg/hour
- c. **40 to 45 kg/hour**
- d. 150 kg/hour

135. In power operated paddy thresher, the threshing drum consist of

- a. Rasp-bars
- b. **spike teeth**
- c. hammer-mills
- d. angle irons

136. The ratio of amount of broken or cracked grains at outlet to the total amount of grains input in the thresher is called

- a. Cylinder loss
- b. threshing loss
- c. concave loss
- d. **visible damage loss**

137. The clearance between beater or cylinder tip and concave is called

- a. **Concave clearance**

- b. cylinder clearance
- c. beater clearance
- d. all of the above

138. The useful life of combine (mounted and drawn type) is

- a. 20 years
- b. 15 years
- c. 10 years
- d. **7 years**

139. The machine used for harvesting the ears of corn is called

- a. **Snapper**
- b. sheller
- c. corn harvester
- d. none of the above

140. The ultimate strength of cement is provided by

- a. Silica
- b. **de-calcium silicate**
- c. tri-calcium silicate
- d. tri-calcium aluminate

141. In combine, the cutter head can be adjusted upto

- a. 25° angles
- b. **55° angles**
- c. 75° angles
- d. 60° angles

142. Stress or strain of failure soil can be calculated by using

- a. **Mohr-Coulomb's equation**
- b. brixus's equation
- c. wismperluth equation
- d. Buckingham π theory

143. In mower, the ledger plates are attached to the

- a. Shoe
- b. **guard**
- c. knife head

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d. knife back

144. Subsoiler has _____, because it runs centre, directly behind the tractor

- a. Less lift angle
- b. **no side draft**
- c. no beet wings
- d. none of the above

145. In MB plough share is fastened to frog with

- a. Counter sunk bolts
- b. plough bolts
- c. **both (a) & (b)**
- d. none of the above

146. The kind of knife motion in mower is

- a. Reptile
- b. rolling
- c. **reciprocating**
- d. sliding

147. According to Indian standard specification, the temperature for curing is

- a. 5°C
- b. 10°C
- c. **27°C**
- d. 42°C

148. A reaper harvests the crops from the height of

- a. **5 to 8 cm**
- b. 10 cm
- c. 2 cm
- d. 15 cm

149. At every stroke, when knife section of mower is stopped in the centre of guard, the registration of mower is said to be

- a. Not proper

b. **proper**

- c. very good
- d. fail

150. Cutting blade of sickle is made of

- a. **Carbon steel**
- b. ferrous metal
- c. high carbon steel
- d. iron

151. The expected annual working hours of power sprayer (knapsac) is

- a. 1000
- b. 1500
- c. **2000**
- d. 8000

152. In sprayer, the size of nozzle disc is indicated by number representing the diameter of disc opening as

- a. 5th of an inch
- b. 32nd of an inch
- c. 16th of an inch
- d. **64th of an inch**

153. In air-plane sprayers, the pump gets the drive from

- a. **Wind driven propeller**
- b. I.C engine
- c. steam engine
- d. pitot tube

154. In compression sprayers, the tank is filled with liquid by

- a. Half capacity
- b. 2/3rd volume
- c. **3/4th volume**
- d. top level

155. Tractor powered dusters are operated by

- a. **PTO**
- b. hydraulic system
- c. flywheel

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d. both (a) & (c)

156. In check row planting, the rows are constructed

- a. Parallel to each other
- b. **perpendicular to each other**
- c. at 15 to 30 cm interval
- d. at 50 cm apart

157. Spraying does not become effective when

- a. Wind velocity is 7.5 kmph
- b. **wind velocity is more than 16.1 kmph**
- c. relative humidity is 50% or less
- d. temperature exceeds 20°C

158. Spraying pattern of nozzles used in high-pressure-high-volume sprayers is

- a. Round shape pattern
- b. oval shape pattern
- c. square pattern
- d. **cone shape pattern**

159. In hydraulic sprayer, the pressure gauge is equipped

- a. On top of the tank
- b. below tank
- c. **discharge line of sprayer**
- d. on a frame near tank

160. 'texaphene' is the example of **a. Organic compound as spray material**

- b. inorganic compound
- c. oil compounds as spray material
- d. none of the above

161. Net tractive coefficient and tractive efficiency of 4WD tractor should be _____ than 2WD

- a. Less
- b. equal

c. **greater**

d. slightly less

162. Dibbling of seed is generally done for sowing the

- a. Vegetables crops
- b. wheat
- c. paddy
- d. **both (a) & (b)**

163. Row spacing of seeds sown by seed drills is generally varied from

- a. **15.2 to 20.3 cm**
- b. 10 to 15 cm
- c. 15 to 30 cm
- d. 20 to 30 cm

164. In which type of sowing methods, the interculture operation is possible from both the sides

- a. **Check sowing**
- b. dibbling
- c. seed drilling
- d. 3-tined cultivator

165. Lister is also called

- a. Ridger
- b. trencher
- c. turnwrest plough
- d. **deep furrow opener**

166. Which of the following sewage treatment unit has parshall flume?

- a. trickling filter
- b. oxidation ditch
- c. **grit chamber**
- d. aerated lagoon

167. Rate of sowing through internal double run feed type metering device can be changed by

- a. Using bigger size hopper
- b. **varying the speed of feed wheel**

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- c. using gear system at the place of chain and sprocket
d. all of the above

168. Widely used chains in chain and sprocket drive system of seed drill is
a. Detachable link chain
b. roller chain
c. flat piece chain
d. **both (a) & (b)**

169. The function of 'dog clutch' in seed drill is to
a. Control the speed
b. control the draft
c. control depth of furrow
d. **disengage the drive wheel**

170. Metering error in case of fluted roller type metering device varies linearly with the error in its
a. Setting of exposed length
b. transmission ratio
c. speed
d. hole size

171. Diameter of seed hole for sowing 'maize' by pneumatic planter is
a. 4 cm
b. 3 cm
c. 8 cm
d. **6 cm**

172. Capacity of seed box in manually operated seed drill is
a. From 2 to 10 l
b. 50 l
c. 20 l
d. 25 l

173. Brush feed type seed metering device is generally used in
a. Animal drawn planters
b. tractor drawn seed drills

- c. tractor drawn planters
d. 3-tynes cultivator, attached with tube

174. Which of the following implements can be used for stubble mulch farming
a. Disc plough
b. rotary tiller
c. spike tooth harrow
d. **one-way disc harrow**

175. 'Kodali' is generally used for
a. Tillage practices only
b. land levelling
c. **earthing up of soil**
d. trench making

176. RPM of flywheel of chaff cutter affects the
a. Feed rate
b. **volume of fodder cut per unit time**
c. power consumption
d. all of the above

177. Rotary hoe consists of two gangs of
a. Discs
b. hand hoes
c. **wheel hoes**
d. spike tooth harrow

178. Maximum unit stress obtained within the first 20 % strain is called as
a. Shear strength of soil
b. **unconfined compressive**
c. unconsolidated shearing strength
d. undrained shearing strength

179. Vertical tine act as retaining wall when aspect ratio
a. 0.3
b. **less than 0.6**

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- c. 0.8
- d. more than 0.8

180. Ratio of rolling resistance force to the normal load on the traction device is known as

- a. Net traction coefficient
- b. tractive efficiency
- c. **motion resistance ratio**
- d. coefficient of rolling resistance

181. Single tire system has _____ tractive efficiency than dual tire system

- a. **Slightly greater**
- b. less
- c. greater
- d. equal

182. Gathering operation is done where lower elevation is in the _____ each time.

- a. **Centre**
- b. left
- c. right
- d. none of the above

183. _____ of disc plough is parallel to disc axis and always below the disc centre line.

- a. Radial force
- b. non-intersection force
- c. **thrust force**
- d. none of the above

184. The main constituent of a Portland cement is

- a. Alumina
- b. alkalies
- c. iron oxide
- d. **lime**

185. The working capacity of animal drawn chaff cutter is how many times greater than the hand chaff cutter

- a. **4 to 6 times**
- b. b. 3 times
- c. 2 times
- d. 5 times

186. The amount of gypsum, usually added in the manufacture of cement is

- a. 0.1 to 0.5%
- b. 0.5 to 1%
- c. **1 to 3 %**
- d. 3 to 5 %

187. A good quality cement should have higher percentage of

- a. Silica
- b. free lime
- c. di calcium silicate
- d. **tri-calcium silicate**

188. The maximum water-cement ratio for durable concrete is

- a. 0.2
- b. 0.4
- c. 0.6
- d. **0.8**

189. The strength of cement concrete increases with

- a. Increase in size of aggregate
- b. increase in the temperature of
- c. increase in the size of aggregate
- d. **all of the above**

190. The shrinkage of concrete

- a. Is proportional to contents of cement
- b. is directly proportional to water
- c. **increases with increase in the percentage of concrete**
- d. all of the above

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191. The sand is mixed with lime mortar to
- a. Reduce cost
 - b. reduce setting time
 - c. improves strength
 - d. **prevents shrinkage and cracking**
192. The workability of cement concrete can be improved by
- a. **Increasing the quantity of cement**
 - b. increasing the proportion of coarse
 - c. increasing the quantity of sand
 - d. all of the above
193. A good building stone should not absorb water more than
- a. **5%**
 - b. 10%
 - c. 15%
 - d. 20%
194. The important test to be conducted on a stone used in docks and harbours is
- a. Hardness test
 - b. workability test
 - c. **weight test**
 - d. toughness test
195. Before testing setting time of cement, one should test for
- a. Soundness
 - b. strength
 - c. fineness
 - d. **consistency**
196. Which one of the following types of steels is used in the manufacture of rails
- a. Mild steel
 - b. **manganese**
 - c. cast steel
 - d. Bessemer steel
197. For good bonding in brick masonry
- a. All brick need not be uniform in size
 - b. bats must be used in alternate courses only
 - c. **the vertical joints in alternate courses should fall in plumb**
 - d. cement mortar used must have surkhi as additive
198. Which of the following mortar is most suitable for construction work in water-logged areas?
- a. Lime mortar
 - b. gauged mortar
 - c. **cement mortar**
 - d. mud mortar
199. Metering device used in fertilizer drill is
- a. Auger type
 - b. star wheel type
 - c. fluted roller type
 - d. **both (a) & (b)**

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200. The opening left in flat roofs for lighting purposes is called

- a.Lantern**
- b. dormer window
- c. sky light
- d. gable window