

# 006/2020

Question Booklet  
Alpha Code

A

Question Booklet  
Serial Number

Total No. of Questions: 100

Time : 75 Minutes

Maximum : 100 Marks

## INSTRUCTIONS TO CANDIDATES

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. Blank sheets of paper is attached to the question booklet. These may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball-Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

006/2020-A





**006/2020**

**Total Marks : 100 Marks**

**Time : 1 hour and 15 minutes**

1. The best way of avoiding accident is by
  - (A) doing work in ancient way
  - (B) doing work in one's own way
  - (C) observing safety rules related to job, machine and work piece
  - (D) using safety equipment
  
2. Fire is a combination of
  - (A) fuel, light and oxygen
  - (B) fuel, heat and carbon dioxide
  - (C) fuel, light and nitrogen
  - (D) fuel, heat and oxygen
  
3. Which of the following is not the part of a combination set ?
  - (A) stock
  - (B) protractor head
  - (C) square head
  - (D) centre head
  
4. The length of the hammer handle for a 500 gm hammer should be about
  - (A) 275mm
  - (B) 375 mm
  - (C) 350 mm
  - (D) 325 mm
  
5. The jaw plates of a bench vice are made of
  - (A) Tool steel
  - (B) Mild steel
  - (C) Low carbon steel
  - (D) Bronze
  
6. A depth micrometer can be used to measure wide range of sizes because
  - (A) it has lengthy spindle
  - (B) it has lengthy sleeve
  - (C) it is equipped with a number of extension rods
  - (D) it has an adjustable base.
  
7. cyaniding and nitriding are two methods of \_\_\_\_\_.
  - (A) hardening
  - (B) case hardening
  - (C) tempering
  - (D) normalizing

8. What is determined while measuring a component ?
- (A) Scale size (B) Actual size  
(C) Specified size (D) Nominal size
9. Ratchet stop in the micrometer helps to
- (A) lock the spindle (B) adjust zero error  
(C) hold the work piece (D) control the pressure
10. The drill sleeves or sockets are available with morse taper and their number range M T-1 to M T-6 which one of the following drill sizes refers to M T-4 ?
- (A) drills above 14 mm up to 23 mm  
(B) drills above 23 mm up to 31.75 mm  
(C) drills above 31.75 mm up to 50.50 mm  
(D) drills above 50.50 mm to 76 mm
11. Both edges of flat bastard file have
- (A) no cut (B) wavy cut teeth  
(C) single cut teeth (D) double cut teeth
12. The distance a drill advances into the job in one complete revolution is known as
- (A) rpm (B) machine speed  
(C) cutting speed (D) feed
13. Pure semi conductors are known as \_\_\_\_\_.
- (A) extrinsic (B) N Type  
(C) P type (D) intrinsic
14. A given component cracked after heat treatment. What can be the possible reason ?
- (A) It was heated for long time \_\_\_\_\_.  
(B) It was not properly cleaned before heating \_\_\_\_\_.  
(C) It was slowly cooled in air \_\_\_\_\_.  
(D) It was suddenly cooled in brine \_\_\_\_\_.
15. Kirchhoff's law is not applicable to
- (A) distributed parameters (B) passive elements  
(C) Non-linear resistance (D) A.C. circuits

16. Which of the following inductor will have the least eddy current loss ?  
(A) iron core (B) air core  
(C) cast iron core (D) powdered iron core
17. MCCB stands for  
(A) Mounted Case Circuit Breaker (B) Metal Case Circuit Breaker  
(C) Moulded Case Circuit Breaker (D) Main Controlled Circuit Breaker
18. A delay fuse is used for the protection of  
(A) 3 phase motor (B) fluorescent tube circuit  
(C) water heater (D) alternators
19. Basic gates are  
(A) AND, OR, NOT (B) AND, XOR, NOR  
(C) AND, NAND, NOT (D) XOR, OR, NOR
20. A dye penetration test is done to find \_\_\_\_\_.  
(A) under cut (B) cracks  
(C) slag inclusion (D) porosity
21. The arc in electric arc welding is a discharge of \_\_\_\_\_.  
(A) high voltage & high current (B) low voltage & high current  
(C) high voltage & low current (D) low voltage and low current
22. To measure the thickness of sheet \_\_\_\_\_ is used  
(A) SWG (B) radius gauge  
(C) steel rule (D) vernier caliper
23. Which one is example of plastic welding ?  
(A) Arc welding (B) forge welding  
(C) Gas welding (D) Thermit welding
24. Which system as per Indian standard in fits and limit permit shaft size constant and hole size variable ?  
(A) Hole basis system (B) Shaft basis system  
(C) Deviation based system (D) BIS system of fit and limits

25. While installing new piston rings, the ring end gap is tested after placing the ring in  
 (A) Piston (B) In a vice  
 (C) Cylinder bore (D) In special fixture
26. In semi floating piston pin –  
 (A) Pin free to move in boss and locked with connecting rod  
 (B) Pin locked with boss and connecting rod is free  
 (C) Both connecting rod and pin are free to move  
 (D) Set screw provided on boss and connecting rod bolted with pin
27. In turbo charged system, an inter cooler is provided to  
 (A) Cool the engine (B) Cool the exhaust gas  
 (C) Cool the intake gas (D) All of these
28. In modern common rail injection system, the common rail stores the diesel fuel with high pressure around  
 (A) 100 bar (B) 500 bar  
 (C) 1500 bar (D) 10000 bar
29. A catalytic convertor in the emission control system  
 (A) Collect the unburned gases and recirculates to the engine  
 (B) Convert the toxic gases to non-toxic  
 (C) Store the toxic gases and should dispose later  
 (D) Allows reaching atmosphere
30. The mechanical power of a tractor can use to drive an air compressor. The drive is taken out from  
 (A) PTO shaft (B) Gear box output shaft  
 (C) Fly wheel (D) Axle shaft
31. The rear wheel track of a tractor can be adjusted by  
 (A) Altering the length of axle shaft (B) Altering length of axle casing  
 (C) Altering the wheels (D) Altering the position of wheel disc
32. Differential lock is the mechanism provided to lock  
 (A) The axle halves each other (B) The gear box and differential  
 (C) Axle and wheel (D) Propeller and differential

33. The defect occurred in the hydraulic brake system when air trapped in the fluid lines  
(A) Hard brake (B) Spongy brake  
(C) Brake dragging (D) Noise while braking
34. The backward tilt of king pin to the vertical is called  
(A) King pin inclination (B) King pin tilt  
(C) Caster angle (D) Camber angle
35. In the air brake system, the brake can be adjusted at  
(A) Brake shoe (B) Brake chamber  
(C) Brake valve (D) Slack adjuster
36. In the disc of a friction clutch, the torsional vibration is absorbed by a series of heavy  
(A) Cushion bolts (B) Coil springs  
(C) Waved pads (D) Friction pads
37. The purpose of the caster angle on an automobile is to  
(A) Prevent tyre wear (B) Better tyre-road contact  
(C) Compensate tyre wear (D) Maintain directional control
38. The diameter of crank shaft main bearing shell is always more than the diameter of its parent bore and is called  
(A) Spread (B) Crush  
(C) Lash (D) Lift
39. Why the bunds are formed using bund former in the irrigated land ?  
(A) To conserve soil (B) To prevent run off  
(C) To increase moisture (D) To plant or sow seeds
40. An engine cylinder with swept volume of  $100 \text{ cm}^3$  and clearance volume of  $10 \text{ cm}^3$ . The compression ratio is  
(A) 1 : 11 (B) 11 : 1  
(C) 10 : 1 (D) 1 : 10

41. Engine displacement is measured in  
(A) Kilogram metre (B) Square metre  
(C) Cubic centimetre (D) Pounds inch
42. Steering clutches are employed for which type of machinery ?  
(A) Bulldozer (B) Excavator  
(C) Two wheeled tractor (D) Four wheeled tractor
43. The lubricating oil pressure of engine is adjusted at  
(A) In pressure gauge (B) Main bearing clearance  
(C) By pass valve (D) Pressure relief valve
44. While making a compression test, the purpose of squirting a small amount of engine oil through the spark plug hole is to  
(A) Lubricate the cylinders and pistons  
(B) See whether compression pressure increases  
(C) Increase the vacuum  
(D) For easy installation of spark plug
45. Irregular missing in different cylinders may result from  
(A) Defective starting motor (B) Defective carburetor  
(C) Detective fan belt (D) Defective battery
46. A light double knock during idle can result from  
(A) Piston slap (B) Sprocket knock  
(C) Incorrect valve clearance (D) Loose or worn piston pin
47. The advantage of engine with hydraulic valve lifter is  
(A) Valve clearance adjustment is not required  
(B) Less mechanical components for valve operation  
(C) More fuel efficiency  
(D) Low initial cost
48. The bottom hose of radiator will collapse in due to  
(A) Lack of coolant (B) Overheated coolant  
(C) Stuck thermostat (D) Stuck pressure valve



49. The process of separating quality grain from chaff is called  
(A) Cleaning (B) Winnowing  
(C) Separation (D) Grading
50. A \_\_\_\_\_ implement can be quickly attached to or detached from a tractor.  
(A) Mounted implement (B) Semi-mounted implement  
(C) Trailed implement (D) Fixed implement
51. The long wooden piece connecting main body of an indigenous plough to its yoke is called  
(A) Handle (B) Share  
(C) Shoe (D) Beam
52. The method of planting in which the row to row and plant to plant distances are equal and uniform is known as  
(A) Drilling (B) Check row planting  
(C) Hill dropping (D) All of these
53. An indigenous plough cuts the soil in a \_\_\_\_\_ section.  
(A) Trapezoidal (B) Rectangular  
(C) Semi-circular (D) Parabolic
54. \_\_\_\_\_ and \_\_\_\_\_ are the main adjustments of the cutter bar of a mower.  
(A) Registration and vertical height (B) Alignment and speed  
(C) Pitman and shoe length (D) Registration and alignment
55. A \_\_\_\_\_ type mould board works in light sticky soils.  
(A) Stubble (B) Slat  
(C) Sod (D) High speed
56. The attachment in mould board ploughs that is used to cut trash and prevent clogging is  
(A) Coulter (B) Jinter  
(C) Gauge wheel (D) Weed hook
57. \_\_\_\_\_ ploughs are preferred in areas with dry climate and rough and stony soils.  
(A) Mould board plough (B) Indigenous plough  
(C) Disc plough (D) Bose plough

58. The method of ploughing where the second furrow is made adjacent to the first one and so on is called
- (A) Side to centre ploughing (B) Cross ploughing  
(C) Adjacent ploughing (D) Centre to side ploughing
59. In a disc plough, penetration can be increased by (I) Increasing disc angle, (II) Increasing tilt angle, (III) Adding weights. State which is true.
- (A) Only (I) (B) Only (II)  
(C) (I), (II) and (III) (D) None of these
60. In tractor operated mould board plough, depth adjustment is done on
- (A) Mould board (B) Rear furrow wheel  
(C) Share (D) Landside
61. Tandem disc harrows have \_\_\_\_\_ gangs.
- (A) Two (B) Three  
(C) Four (D) Six
62. Disc spacing in a disc harrow is
- (A) 10 – 15 cm (B) 15 – 25 cm  
(C) 5 – 10 cm (D) 10 – 20 cm
63. The adjustments made on cultivator shovels are (I) setting for proper row width (II) setting for depth or levelling (III) turning shovel on type to throw required soil
- (A) Only (I) (B) Only (II)  
(C) Only (III) (D) (I), (II) and (III)
64. The subsoiler ploughs up to a depth of
- (A) 25 – 35 cm (B) 15 – 30 cm  
(C) 60 – 70 cm (D) More than 100 cm
65. The angle at which the cutting blade of a chisel plough enters the soil is
- (A) 40 degrees (B) 30 degrees  
(C) 20 degrees (D) 60 degrees
66. Fluted roller metering mechanism is suitable for
- (A) Precision planting (B) Big sized seeds  
(C) Bulk metering (D) None of these

67. \_\_\_\_\_ are provided in seed drills to help in placing seeds at uniform and desired depth and spacing  
(A) Seed tubes (B) Furrow openers  
(C) Seed metering mechanism (D) None of these
68. Mould board is generally made of  
(A) Soft centre steel (B) High carbon steel  
(C) Mild steel (D) Iron
69. Checking the application rate and pattern of dispersal of agricultural materials by a machine is called  
(A) Spacing (B) Spraying patterns  
(C) Calibration (D) None of these
70. Weight per disc of a tractor drawn disc plough ranges from  
(A) 180 – 540 kg (B) 25 – 30 kg  
(C) 250 – 300 kg (D) 50 – 100 kg
71. FarmTrac is the brand name of tractor manufactured by  
(A) Escorts Ltd. (B) Force Motors Ltd.  
(C) HMT Ltd. (D) Mahindra and Mahindra Ltd.
72. In a tubular maize sheller, separation occurs due to  
(A) Impact (B) Shear  
(C) Oscillation (D) Beating
73. An acceptable uniformity coefficient for sprinkler irrigation is \_\_\_\_\_ %.  
(A) 65 – 85 (B) 100  
(C) 20 – 30 (D) More than 85
74. As per Indian Standards, the Test Code for power tillers is  
(A) IS : 9935 (B) IS : 13539  
(C) IS : 5994 (D) IS : 9253
75. \_\_\_\_\_ is a precision levelling equipment for fine levelling of agricultural fields with desired slope.  
(A) Dozer (B) Laser guided leveler  
(C) Scraper (D) Land plane

76. Which of the following is a selective herbicide ?
- (A) Glyphosate (B) Glyphosinate Ammonium  
(C) 2, 4 – D (D) All of these
77. The raised ridge left at the centre of the strip of land, when ploughing is done from centre to side is called
- (A) Dead furrow (B) Back furrow  
(C) Head land (D) None of these
78. The percentage of unthreshed grains from all outlets with respect to the total grain input in a thresher by weight is called
- (A) Cylinder loss (B) Sieve loss  
(C) Blower loss (D) Visible loss
79. ER90/KMB200 is a model of
- (A) Tractor (B) Power tiller  
(C) Transplanter (D) Power sprayer
80. The vertical suction of a walking type mould board plough is
- (A) 3 – 5 mm (B) 5 – 6 mm  
(C) 8 – 10 mm (D) 7 – 11 mm
81. \_\_\_\_\_ type of pumps are used in sprayers to develop the required pressure.
- (A) Positive displacement (B) Centrifugal  
(C) Radial flow (D) None of these
82. The point at which the resultant of all the horizontal and vertical forces act in a tractor operated plough is
- (A) Centre of gravity (B) Centre of pull  
(C) Centre of resistance (D) Centre of power
83. \_\_\_\_\_ is mostly used in power tillers
- (A) Dog clutch (B) Fluid coupling  
(C) Cone clutch (D) None of these

84. The power requirement of a self-propelled combine harvester is  
 (A) 8 hp per metre width of cut (B) 10 hp per metre width of cut  
 (C) 12 hp per metre width of cut (D) 6 hp per metre width of cut
85. The dimensional homogeneity coefficient of a spray is given by the ratio  
 (A)  $VMD/2$  (B)  $NMD/2$   
 (C)  $VMD/NMD$  (D) None of these
86. The angle made by the cutter bar to the direction of motion in a mower is  
 (A)  $20^\circ$  (B)  $88^\circ$   
 (C)  $80^\circ$  (D)  $25^\circ$
87. Spray nozzle flow rate is a function of  
 (A) Nozzle type (B) Orifice size  
 (C) Pressure (D) All of these
88. The volume of spray in low volume sprayers ranges from  
 (A) 5 – 200 l/ha (B) 5 – 400 l/ha  
 (C) 50 – 200 l/ha (D) 50 – 400 l/ha
89. In a laser leveler the received signal is converted to cut and fill adjustments of the scraper automatically by a  
 (A) Two way hydraulic valve (B) One way hydraulic valve  
 (C) Sensor (D) None of these
90. The commonly used metering mechanism in potato planters is  
 (A) Cell feed (B) Picker wheel  
 (C) Gravity feed (D) Cup feed
91. \_\_\_\_\_ is the ratio of peripheral velocity to speed of travel in a combine harvester.  
 (A) Reel index (B) Reel capacity  
 (C) Speed index (D) Feed index
92. The type of cultivator in which the tynes are lifted when they hit an obstacle is  
 (A) Spike tooth cultivator (B) Spring tyne cultivator  
 (C) Peg tooth cultivator (D) All of these

93. A manually operated sprayer that is also used for spraying in orchards and plantation crops is
- (A) Knapsack sprayer (B) Hand compression  
(C) Rocker sprayer (D) All of these
94. The number of cutting blades in a manually operated flywheel type chaff cutter is
- (A) 4 (B) 1  
(C) 2 (D) 3
95. The process of detaching grains from earheads is known as
- (A) Reaping (B) Harvesting  
(C) Winnowing (D) None of these
96. The portion of the pump casing through which pump shaft extends, with a seal to prevent leakage is called
- (A) Suction box (B) Stuffing box  
(C) Casing (D) None of these
97. \_\_\_\_\_ is used to provide spacing between discs of a disc harrow.
- (A) Arbor bolt (B) Spool  
(C) Gang (D) Scraper
98. Operating pressure of a hand operated sprayer is
- (A) 1 – 7 kg/cm<sup>2</sup> (B) 1 – 10 kg/cm<sup>2</sup>  
(C) 5 – 10 kg/cm<sup>2</sup> (D) 10 – 15 kg/cm<sup>2</sup>
99. The \_\_\_\_\_ of a disc plough affects the pulverization and throw of furrow slice.
- (A) Disc angle (B) Tilt angle  
(C) Throat clearance (D) Diameter
100. The part of a mould board plough that supports the plough bottom against the furrow wall is
- (A) Frog (B) Wing of share  
(C) Gunnel of share (D) Point of share

**SPACE FOR ROUGH WORK**

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