

42/24

Question Booklet Sl. No.

Question Booklet Alpha Code

A

A

Total Number of Questions : 100

Time : 90 Minutes

Maximum Marks : 100

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/her 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. A blank sheet of paper is attached to the Question Booklet. This 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.

A

1. Marking media used for casting and forging surfaces is
 - A) Cellulose lacquer
 - B) Chalk powder
 - C) Copper sulphate
 - D) Prussian blue

2. Which of the following is not a type of direct measuring instrument ?
 - A) Divider
 - B) Micrometer
 - C) Steel rule
 - D) Vernier caliper

3. The point angle of scriber is
 - A) 10° to 20°
 - B) 12° to 15°
 - C) 40° to 50°
 - D) 60° to 90°

4. Baseline dimensions are referenced from a common geometric feature known as a
 - A) Corner
 - B) Datum
 - C) Edge
 - D) Point of reference

5. Which is used to find out the centre of a round bar ?
 - A) Divider
 - B) Inside caliper
 - C) Jenny caliper
 - D) Outside caliper

6. This punch is used for making witness marks
 - A) Hollow Punch
 - B) 30° Prick Punch
 - C) 60° Prick Punch
 - D) 90° Centre Punch

7. The part of the universal surface gauge which helps to draw a parallel line along a datum edge is the
 - A) Spindle
 - B) Snug
 - C) Rocker arm
 - D) Guide pins

8. Which type of instrument is a combination set ?
 - A) A non-precision instrument
 - B) An inside measuring instrument
 - C) Used for highly precision works
 - D) Used to check flatness only

42/24

9. What is the advantage of granite over cast iron in making surface plates ?
- A) No need of inserts and fasteners B) Reflects radiant heat
C) Strength for given weight is high D) Won't rust by moisture
10. During marking, the reference surface is provided by
- A) Marking-off table B) Sketch of the job
C) Surface gauge D) Work piece
11. The middle portion of the hammer head is called as
- A) Pein B) Face
C) Eye hole D) Cheek
12. The bench vices are specified by the
- A) Length of fixed jaw B) Length of spindle
C) Moving distance of movable jaw D) Width of jaw
13. Combination pliers are not used for
- A) Cutting B) Hammering
C) Holding D) Twisting
14. Which screw driver is used for driving star headed screw ?
- A) Connector screw driver B) Philips screw driver
C) Heavy-duty screw driver D) Insulated screw driver
15. What is the width of narrow steel rule ?
- A) 3 mm B) 4 mm
C) 5 mm D) 6 mm
16. Try square is used to set work piece of right angles on
- A) Blade B) Machines
C) Surfaces D) Work holding devices
17. At which part of the precision straight edge is generally lapped ?
- A) Base and edges both B) Base only
C) Edges only D) All over the surface

A

18. Bevel is used for
- A) Cutting timber
 - B) Cutting wood
 - C) Setting angles other than a right angle
 - D) Setting right angles
19. The degree of closeness of the measured value of a certain quantity with its true value is known as
- A) Accuracy
 - B) Precision
 - C) Sensitivity
 - D) Standard
20. One yard = _____ inch.
- A) 36
 - B) 38
 - C) 40
 - D) 42
21. Which of the following is the commonly used file to finish inside the teeth of gear wheels ?
- A) Mill saw file
 - B) Riffler file
 - C) Cross file
 - D) Barrette file
22. Which file is known as a fish backfile ?
- A) Riffler file
 - B) Crossing file
 - C) Mill saw file
 - D) Tinker's file
23. A hacksaw blade of 300 mm length has 375 teeth. What is the classification and type of saw set of the blade ?
- A) Fine, wave set
 - B) Medium, wave set
 - C) Medium, staggered set
 - D) Fine, staggered set
24. Which scraper is used to scrape small diameter holes and deburring edges of holes ?
- A) Flat scraper
 - B) Triangular scraper
 - C) Hook scraper
 - D) Bull-nose scraper
25. Where will you concentrate while chipping ?
- A) Hand holding
 - B) Cutting edge of the chisel
 - C) Head of chisel
 - D) Head of the hammer

26. What is the main advantage of the radial drilling machine ?
- A) Heavy work pieces can be machined in any position without moving them
 - B) It is accurate, economical, portable and least time consuming while machining
 - C) It is very compatible and handy for machining
 - D) Small work pieces can be machined and it can be used for mass production as well
27. Low helix angle drills are used for drilling holes in
- A) Carbon steel
 - B) Cast steel
 - C) Copper
 - D) Plastics
28. The distance a drill advances into the job in one complete revolution is known as
- A) R.P.M.
 - B) Cutting speed
 - C) Feed
 - D) Machine speed
29. Which of the following is incorrect about feeler gauge ?
- A) A feeler gauge has number of blades of equal thickness
 - B) Blades are hinged in a sheath
 - C) Each thin blade is inter-leaved between two thick blades
 - D) Feeler gauge can be used to check spark plug gaps
30. A grinding wheel is specified by C 70 G 7 R 23. Here C stands for
- A) Aluminium oxide
 - B) Cubic boron nitride
 - C) Diamond
 - D) Silicon carbide
31. An outside micrometer has a negative error. The correct reading can be taken by
- A) Adding twice the negative error in the actual reading
 - B) Adding the negative error in the actual reading
 - C) Deducing the negative error from the actual reading
 - D) Deducing twice the negative error from the actual reading
32. Where will be the vernier scale is present in vernier bevel protractor ?
- A) Adjustable plate
 - B) Base plate
 - C) Circular plate
 - D) Main body

33. For general use, the measuring tip of a comparator should be
- A) Concave
 - B) Conical
 - C) Flat
 - D) Spherical
34. For inspection purpose, _____ slip gauges are used.
- A) 1 grade
 - B) 00 grade
 - C) 2 grade
 - D) 0 grade
35. External taper can be accurately measured with the help of
- A) Sine bar and slip gauges
 - B) Dividing head
 - C) Height gauge
 - D) Clinometer
36. Which of the following is not correct about fixture ?
- A) It assures high accuracy of parts
 - B) It is used to guide the cutting tool
 - C) It is used to hold the work
 - D) It is used to position the work
37. Upper deviation is the algebraic difference between the _____ and corresponding basic size.
- A) Actual size
 - B) Design size
 - C) Maximum limit of the size
 - D) Minimum limit of the size
38. Minimum clearance is the difference between _____ size of the hole and the _____ size of the shaft.
- A) Maximum, maximum
 - B) Maximum, minimum
 - C) Minimum, minimum
 - D) Minimum, maximum
39. The error which arises when the zero of main scale reading and vernier scale reading do not coincide upon joining the two jaws are
- A) Zero error
 - B) Vernier error
 - C) Negative error
 - D) Depth error

42/24

40. In the hole and shaft pair designation of 40 H7/d9, the numbers 7 and 9 indicate
- A) Accuracy of manufacture
 - B) Ease of assembly
 - C) Tolerance grade
 - D) None of the above
41. Which thread has a combined strength of square thread and V thread ?
- A) Acme thread
 - B) American national standard thread
 - C) Knuckle thread
 - D) Buttress thread
42. Which key transmits power through frictional resistance only ?
- A) Woodruff
 - B) Sunk
 - C) Saddle
 - D) Kennedy
43. Which bolt is commonly used in bearing for shafts ?
- A) Eye bolt
 - B) Hook bolt
 - C) Square-headed bolt
 - D) T-headed bolt
44. What is the name of the nut which is a hexagonal nut with a washer ?
- A) Cap nut
 - B) Dome nut
 - C) Flanged nut
 - D) Wing nut
45. A cotter joint is used to connect two _____ rods.
- A) Co-axial
 - B) Perpendicular
 - C) Parallel
 - D) None of these
46. Which coupling requires accurate alignment of input and output shafts ?
- A) Rigid
 - B) Helical
 - C) Flexible disk
 - D) Bush pin
47. The purpose of using borax in brazing is to
- A) Accelerate the formation of oxides on the work
 - B) Dissolve oxides when heating the work
 - C) Prevent the spelter from melting too quickly
 - D) Replace flux

48. The power transmitted by the belt drive can be increased by
- A) Dressing the belt to increase the coefficient of friction
 - B) Increasing the initial tension in the belt
 - C) Increasing wrap angle by using idler pulley
 - D) All of the above methods
49. The main advantage of worm gear drive is
- A) Ease of manufacturing
 - B) High velocity ratio
 - C) Low cost
 - D) Low power loss
50. Which of the following is false ?
- A) Angular contact bearing can take thrust as well as radial loads
 - B) Cylindrical load bearing has lower load capacity as compared to deep groove ball bearing
 - C) Due to line contact, cylinder roller creates far more noise
 - D) None of the above
51. What is the purpose of annealing in steel ?
- A) To add cutting ability
 - B) To increase wear resistance
 - C) To relieve the internal stress
 - D) To refine the grain structure of the steel
52. Which is the main part of the forge furnace where metal is heated ?
- A) Hearth
 - B) Blower
 - C) Quenching tank
 - D) Chimney
53. What quenching media is used for special alloy steels ?
- A) Brine solution
 - B) Water
 - C) Oil
 - D) Cold Air
54. What is the material used in the manufacture of swage block ?
- A) Mild steel
 - B) Malleable cast iron
 - C) High carbon steel
 - D) Tool steel

55. What is the temperature that change of structure to austenite starts at 723° in heat treatment process ?
- A) Lower critical temperature B) Upper critical temperature
C) Melting temperature D) Critical temperature
56. Which of the following vice is best suited for forging works ?
- A) Hand vice B) Bench vice
C) Leg vice D) Pin vice
57. Which method of surface hardening is done in a heated salt bath ?
- A) Flame hardening B) Gas carburising
C) Pack carburising D) Liquid carburising
58. An operation of solid state welding process which is used to join two metal pieces by heating them to a temperature and hammered together to join them
- A) Arc welding B) Forge welding
C) Gas welding D) Upsetting
59. What is the uses of fullers ?
- A) For necking and grooving
B) For hollowing
C) For drying down
D) For forming the head of rivets and bolts
60. Which method of heat treatment to improve machinability and ductility in the job ?
- A) Annealing B) Hardening
C) Tempering D) Normalizing
61. When bottom swage and top fuller are used together then which of the following operation is done ?
- A) Drawing out B) Hollowing
C) Jumping D) Bending

62. Which structure of steel contain 0% carbon ?
- A) Ferrite
B) Pearlite
C) Austenite
D) Cementite
63. Which is the most suitable place in the furnace to warm up the components ?
- A) Top of the fire which is covered with a thin layer of coal
B) Under the air spout from where the flame comes
C) Near the air spout where the air comes straight at the component
D) Away from the air spout and covered by a thick layer of coal from the above
64. In which method of surface hardening, the surface remains free from scales ?
- A) Nitriding
B) Case hardening
C) Flame hardening
D) Induction hardening
65. What is the operation upsetting ?
- A) Making a hole in the component
B) Enlarging the length there by reducing the thickness
C) Process by which the cross sectional area of a metal piece is increased with a decrease in length
D) Operation of extending the metal in all directions
66. Which heat treatment process increases the wear resistance of steel ?
- A) Annealing
B) Tempering
C) Hardening
D) Normalising
67. Which is the part of anvil used for jumping and upsetting of metal ?
- A) Beak
B) Face
C) Upsetting block
D) Round hole
68. What is the process if hot steel is cooled slowly the old structure is retained and it will have fine grains that makes it easily machined ?
- A) Annealing
B) Hardening
C) Tempering
D) Normalising

69. What is the appropriate heating temperature for forging of low carbon steel ?
A) 900°C
B) 1100°C
C) 1300°C
D) 1600°C
70. What is the heat treatment process to remove extreme brittleness and induce toughness and shock resistance in steel ?
A) Tempering
B) Annealing
C) Normalising
D) Hardening
71. What is the another name of a snip ?
A) Cutter
B) Hand shear
C) Scissors
D) Blade
72. Which instrument is used to scribe a circle or an arc with a large diameter which cannot be scribed by a wing compass ?
A) Divider
B) Jenny caliper
C) Trammel
D) Wing compass
73. Which type of snip is used for trimming cylindrical or conical work in sheet metal ?
A) Straight snip
B) Bent snip
C) Block shear
D) Rohdes shear
74. Which type of mallets are used for hollowing panel beating etc. ?
A) Standard wooden mallet
B) Bossing mallet
C) End-faked mallet
D) General purpose mallet
75. Which tool is used where deeper lines are to be marked ?
A) Steel square
B) Scriber
C) Scratch awl
D) Divider
76. Which sheets are used for making acid tanks ?
A) Lead sheet
B) Copper sheet
C) Tinned plate
D) Stainless steel

77. What are the sheet metal workers anvil used for bending, seaming or forming ?
- A) Scratch awl B) Stakes
C) Bench vice D) Square
78. Which type of stake is used when making small diameter tubes with thin gauge metal ?
- A) Funnel stake B) Bick iron
C) Creasing iron D) Horse
79. Which type of seam is used for roofing and pannelling joints ?
- A) Lap seam B) Grooved seam
C) Double seam D) Double grooved seam
80. What is used for closing and locking of seams in sheet metal work ?
- A) Groover B) Soldering
C) Riveting D) Seaming
81. Why cylinder keys are not removed from the cylinder while welding ?
- A) To prevent gas leak B) To close in case of backfire
C) To adjust the gas supply D) To open and close frequently
82. What is the colour of acetylene cylinder ?
- A) Blue B) Green
C) Black D) Maroon
83. Name the type of welding in which similar metals are joined together by melting and fusing their joining edges with or without the filler metal.
- A) Non-fusion welding B) Fusion welding
C) TIG welding D) MIG welding
84. What is the angle of blow pipe and filler rod in the left word technique of gas ?
- A) 30° and 40° B) 50° and 40°
C) 60° and 70° D) 60° and 30°
85. Which type of test is used to detect surface defects in ferrous metals ?
- A) Visual test B) Dye penetrand test
C) Magnetic test D) Radiographic test

42/24

86. Which tool is used to handle the hot metal welding job while cleaning ?
- A) Wire brush
B) Tongs
C) Electrode holder
D) Clamp
87. The size of welding nozzle is determined by which factor ?
- A) Diameter of its orifice
B) Length of nozzle
C) Length of handle
D) Length and diameter of nozzle
88. What is the melting point of the copper ?
- A) 1150°C
B) 1530°C
C) 1500°C
D) 1083°C
89. Acetylene gas is the product of a chemical reaction between which compounds ?
- A) Oxygen and Hydrogen
B) Oxygen and Coal
C) Calcium Carbide and Water
D) Carbide and Oxygen
90. Which type of flame contains excess of acetylene ?
- A) Neutral flame
B) Oxidising flame
C) Carburising flame
D) Acetylene hydrogen flame
91. In a lathe, which part is used to provide a means to assemble the work holding devices and transmit the drive from the main motor to the work ?
- A) Headstock
B) Tailstock
C) Lathe bed
D) Carriage
92. Which one of the following is the specification of lathe ?
- A) Capacity to fit accessories and attachments for performing the different operations
B) Maximum diameter of work that can be held
C) Maximum length of work that can be turned between centers
D) Both B) and C)
93. Which part of the lathe is fitted on the top and to the front of the cross slide ?
- A) Compound rest
B) Tool post
C) Apron
D) Saddle

94. In which type of lathe tool, carbon and tungsten are the chief alloying elements and it is manufactured by powder metallurgy technique ?
- A) High carbon steel B) High speed steel
C) Carbide tool D) Stellite tool
95. Which type of tool post consists of a circular tool post body and a pillar with a slot for accommodating the tool or tool holder ?
- A) Single way tool post B) Indexing type tool post
C) Four way tool post D) Quick change tool post
96. In which place the graduations are marked in the tailstock ?
- A) Body of the tailstock B) Rear end of the base
C) Bottom of tailstock D) Front end of the tailstock
97. Where is the multi point cutting tools are holding in a lathe operation ?
- A) Headstock B) Tailstock
C) Tool post D) Saddle
98. Which type of lathe cutting tools are made up of two different metals ?
- A) Solid tools B) Throw away tool
C) Brazed tools D) Inserted bits
99. Cutting speed is expressed in which unit ?
- A) mm/minute B) cm/minute
C) m/second D) metre/minute
100. Which type of taper is used in bores of spindles and noses of lathe ?
- A) Morse taper B) Brown and sharp taper
C) Pin taper D) Standard pin taper
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Space for Rough Work

