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Question Booklet Alpha Code

A

Question Booklet Sl. No.

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.

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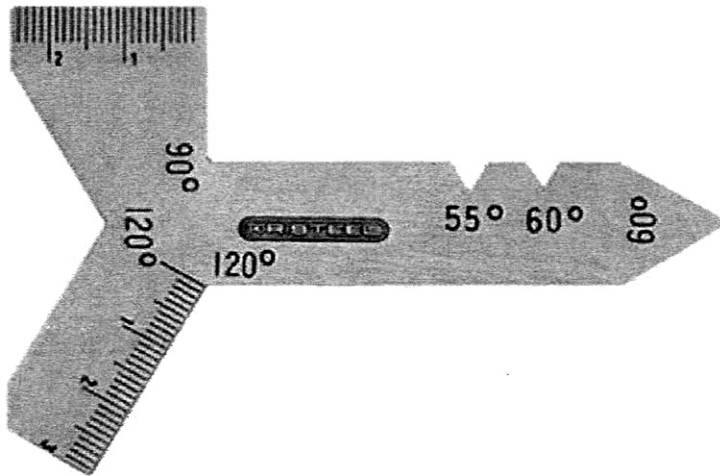
1. The marking media used for marking out purpose which is poisonous is
  - A) Prussian blue
  - B) Copper Sulphate
  - C) Chalk
  - D) Charcoal
2. B grade surface plates are 0.02 mm of flatness. While A grade surface plates are within \_\_\_\_\_ flatness.
  - A) 0.5 mm
  - B) 0.05 mm
  - C) 0.002 mm
  - D) 0.005 mm
3. The smallest size of gauge block in a M88 set of slip gauge is
  - A) 1.0005 mm
  - B) 1.005 mm
  - C) 1.05 mm
  - D) 0.0005 mm
4. What is the purpose of slots in the angle plate ?
  - A) To insert the bend part of the work piece
  - B) To enable the work to be held firmly by bolts and clamps
  - C) To reduce the weight of angle plate
  - D) To avoid changing of angle due to expansion
5. In measurement, the length standard is classified as two. One is line standard and the other is
  - A) Angle standard
  - B) Circular standard
  - C) End standard
  - D) International standard
6. \_\_\_\_\_ is an example of precision measuring instrument.
  - A) Slip gauge
  - B) Depth gauge
  - C) Steel Rule
  - D) Protractor
7. A caliper which is extremely useful for scribing lines parallel to the edge of the work and for finding centre of a cylindrical work is
  - A) Outside caliper
  - B) Inside calliper
  - C) Divider
  - D) Hermaphrodite caliper
8. If the bevelled edge of the thimble of an outside micrometer passed along the barrel from the zero to 18 divisions above reference line, 1 division below reference line and division 12 on the thimble line coincides with the longitudinal line. What will be the reading ?
  - A) 18.062 mm
  - B) 18.62 mm
  - C) 186.2 mm
  - D) 18.0062 mm
9. Gauges are made in 5 grades of accuracy. In that which grade is most commonly used in the production of components, tools and gauges ?
  - A) Grade 00
  - B) Grade 0
  - C) Grade II
  - D) Grade I

10. In a vernier caliper the vernier scale has 50 divisions which are numbered from 0 to 50. Every fifth division is numbered. The length of 50 divisions on the vernier is equal to the length of 49 divisions or 49 mm on the main scale. Then what is the least count of this vernier calliper ?  
 A) 0.01 mm                      B) 0.002 mm                      C) 0.02 mm                      D) 0.2 mm
11. Which metal is used to make hammer ?  
 A) Low carbon steel                      B) High carbon steel  
 C) Drop forged carbon steel                      D) Medium carbon steel
12. How bench vice is specified ?  
 A) Length of fixed jaw                      B) Length of movable jaw  
 C) Length of spindle                      D) Width of the jaws
13. What is the accuracy of steel rule in British system ?  
 A)  $\frac{1}{64}$  inch                      B) 1 inch                      C)  $\frac{1}{32}$  inch                      D)  $\frac{1}{24}$  inch
14. What is the accuracy of try square for 10 mm length ?  
 A) 0.0002 mm                      B) 0.001 mm                      C) 0.002 mm                      D) 0.02 mm
15. What is the other name of jenny caliper ?  
 A) Vernier caliper                      B) Hermaphrodite caliper  
 C) Outside caliper                      D) Inside caliper
16. Which instrument is used for testing the straightness and flatness of plane surfaces ?  
 A) Steel rule                      B) Vernier caliper  
 C) Spirit level                      D) Straight edge
17. Which part of combination set is used to locate the centre of cylindrical jobs ?  
 A) Centre head                      B) Rule  
 C) Protractor head                      D) Square head
18. How many minutes are in 1 degree ?  
 A) 30 minutes                      B) 180 minutes                      C) 60 minutes                      D) 120 minutes
19. What is the unit of mass in FPS system ?  
 A) Kilogram                      B) Milligram                      C) Pound                      D) Tonne
20. How screw drivers are specified ?  
 A) According to the diameter of shank  
 B) According to the length of shank and width of tip  
 C) According to the length of handle  
 D) According to the diameter of handle

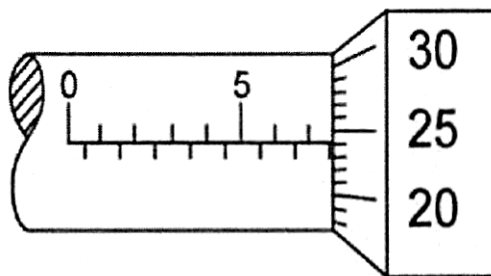
21. Which of the following statement is correct about Needle file ?
- File length = Nominal length + Tang length
  - Tang length = Nominal length + File length
  - Nominal length = File length + Tang length
  - Nominal length = Handle length + Tang length
22. Which of the following statement is/are correct related to grinding wheel bond ?
- Shellac bond wheels have a milder action and cut with less harshness than vitrified bond wheels.
  - Silicate bond is used for heavy duty, large diameter wheels where fine finish is required.
  - Vitrified bond is the most widely used bond and it has high porosity and strength.
  - Resinoid bond is used for speed wheels and are used in foundries for dressing castings.
- Only i and iii
  - Only iii and iv
  - Only i, iii and iv
  - All of the above
23. What is the point angle of chisel, having rake angle 30 degree and clearance angle 20 degree ?
- 50 degree
  - 10 degree
  - 40 degree
  - 60 degree
24. A hole is reamed with a 10 mm reamer, drill size should be
- 9.00 mm
  - 9.70 mm
  - 9.80 mm
  - 9.75 mm
25. Match the following :
- |                  |  |
|------------------|--|
| a. Mill saw file | i. Used for die-sinking, engraving and in silversmith's work.              |
| b. Crossing file | ii. Used for sharpening teeth of wood-working saws.                        |
| c. Barrette file | iii. This file has a rectangular shape with teeth only at the bottom face. |
| d. Riffler file  | iv. This file is also known as 'fish back' file.                           |
|                  | v. This file has a flat, triangular face with teeth on the wide face only. |
- a – ii, b – iv, c – i, d – v
  - a – ii, b – iv, c – v, d – i
  - a – ii, b – v, c – iii, d – iv
  - a – ii, b – v, c – i, d – iv



32. What is accuracy of metric outside vernier micrometer ?  
 A) 0.02 mm                      B) 0.01 mm                      C) 0.001 mm                      D) 0.002 mm
33. What is the term used for the relationship exist between two mating parts ?  
 A) Limit                              B) Allowance                      C) Tolerance                      D) Fit
34. Which type of fixture is used for machines on evenly spaced surfaces ?  
 A) Angle plate fixture                      B) Vice jaw fixture  
 C) Indexing fixture                      D) Plate fixture
35. Which type of jig is used for awkwardly shaped work piece to drill at different angle ?  
 A) Trunnion jig                      B) Indexing jig                      C) Post jig                      D) Solid jig
36. What is the use of drill gauge ?  
 A) Check the lip length                      B) Check the diameters of the drill  
 C) Check the cutting angle of the drill                      D) Check the length of the drill
37. What is the name of gauge ?



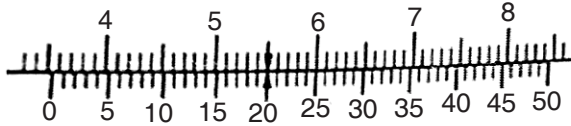
- A) Slip gauge                              B) Angle gauge  
 C) Centre gauge                              D) Screw pitch gauge
38. What is the reading of the outside micrometer 50 mm to 75 mm ?



- A) 57.24 mm                      B) 57.74 mm                      C) 58.24 mm                      D) 58.74 mm

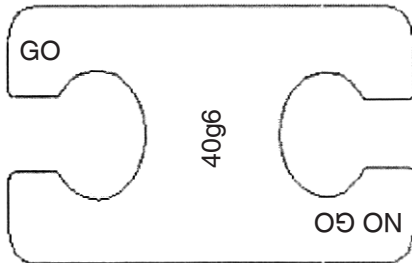
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39. What is the reading of a vernier caliper ?



- A) 35.00 mm
- B) 35.40 mm
- C) 35.42 mm
- D) 35.50 mm

40. What is the name of gauge ?



- A) Taper Gauge
- B) Progressive Plug Gauge
- C) Double end Plug Gauge
- D) Snap Gauge

41. What is the approximate composition of lead and tin in eutectic alloy ?

- A) 60% Tin and 40% Lead
- B) 40% Tin and 60% Lead
- C) 66% Tin and 34% Lead
- D) 63% Tin and 37% Lead

42. Which type of belt fastener is used on heavy-duty machines ?

- A) Wire type belt fastener
- B) Lagrelle type belt fastener
- C) Jackson type belt fastener
- D) Crescent type belt fastener

43. Which washer is used when the mounting holes are over size ?

- A) Internal type
- B) External type
- C) Internal and external type
- D) Counter sunk type

44. Which type of gears are widely used for speed reduction purposes ?

- A) Worm shaft and worm gear
- B) Rack and pinion
- C) Bevel gear
- D) Mitre gear

45. Which type of bearing has provision for wear adjustment ?

- A) Self-aligning bush bearing
- B) Adjustable slide bearing
- C) Split bearing
- D) Solid bearing

46. Which set screw is used on parts requiring frequent adjustment ?

- A) Oval point set screw
- B) Cone point set screw
- C) Flat point set screw
- D) Dog point set screw



47. Which coupling is used on line shafts in textile mills ?
- A) Clamp coupling
  - B) Universal coupling
  - C) Safety coupling
  - D) Plate coupling
48. Which rivets are used to reduce the height of the rivet head above the metal surface ?
- A) Mushroom head rivets
  - B) Snap head rivets
  - C) Pan head rivets
  - D) Flat head rivets
49. Which of the following clutch is a positive drive ?
- A) Cone clutch
  - B) Centrifugal clutch
  - C) Multi-plate clutch
  - D) Dog clutch
50. Which type of key is used for transmitting unidirectional torque ?
- A) Taper and jib-headed key
  - B) Parallel or feather key
  - C) Woodruff key
  - D) Saddle key
51. Which of the following statement is/are correct about Lead ?
- i. Lead is extracted from ore called Galena.
  - ii. Lead is a heavy metal.
  - iii. Solder is an alloy of Lead.
- A) Only ii and iii
  - B) Only i and ii
  - C) All of the above i, ii and iii
  - D) Only iii
52. Which of the following statement is/are correct about Annealing ?
- i. Annealing soften the steel.
  - ii. Annealing reduce ductility.
  - iii. Annealing improves the machinability.
- A) Only iii
  - B) Only i and ii
  - C) Only i and iii
  - D) All of the above i, ii, and iii
53. Which of the following statement is/are correct related to structure of steel ?
- i. Ferrite is relatively soft and ductile.
  - ii. Cementite is a chemical form of iron and carbon.
  - iii. Carbon content in ferrite is more than 1%.
- A) Only iii
  - B) Only i and ii
  - C) Only i and iii
  - D) All of the above i, ii, and iii

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54. The major constituents of monel metal are  
A) Copper and Tin  
B) Tin and Iron  
C) Nickel and Copper  
D) Nickel and Zinc
55. Major constituents of Muntz metal is  
A) Zinc  
B) Copper  
C) Lead  
D) Tin
56. Match the hardness testing methods in Group I with the corresponding indenters in Group II.
- |                        |                                |
|------------------------|--------------------------------|
| P. Vickers hardness    | 1. Brale indenter              |
| Q. Brinell hardness    | 2. 1.6 mm diameter steel ball  |
| R. Rockwell B hardness | 3. 10 mm diameter steel ball   |
| S. Rockwell C hardness | 4. Square base diamond Pyramid |
- A) P – 1, Q – 2, R – 3, S – 4  
B) P – 1, Q – 3, R – 2, S – 4  
C) P – 4, Q – 2, R – 3, S – 1  
D) P – 4, Q – 3, R – 2, S – 1
57. When heating the steel, changes its temperature commences from  
A) 730°C  
B) 703°C  
C) 743°C  
D) 723°C
58. In the process of normalizing steel, the specimen is subjected to heating  
A) Between the upper and lower critical temperatures, followed by cooling in still air.  
B) Between the upper and lower critical temperatures, then cooled in a furnace.  
C) Above the upper critical temperature, then cooled in a furnace.  
D) Above the upper critical temperature, then cooled in still air.
59. Double bell and happer arrangement mechanism is used in  
A) Blast furnace  
B) Open-hearth furnace  
C) Electric furnace  
D) Crucible process
60. Alloy that contains lanthanoid metals is  
A) Mischmetal  
B) Perm alloy  
C) Superalloy  
D) Mumetal
61. The name of square hole in Anvil, which is used for holding square shank of various fitting  
A) Prichel hole  
B) Piercing hole  
C) Hardie hole  
D) Beak hole

62. Which are correct statement in the case of Chisel used in Forging ?
- I. The edges of cold chisel is hardened and tempered with an angle of  $60^\circ$ .
  - II. The edges of cold chisel is hardened and tempered with an angle of  $30^\circ$ .
  - III. The edges of hot chisel is  $30^\circ$  and hardening is not necessary.
  - IV. The edges of hot chisel is hardened and tempered with an angle of  $60^\circ$ .
- A) I and II                                      B) II and III  
C) III and IV                                    D) I and III
63. The Forging operation holes are opened out driving through a larger tapered puch is called
- A) Drift                                    B) Prick punch                    C) Swage                              D) Hatch
64. Which are the statement correct in the case of Cutting in Forging ?
- I. It is the process of combined (packed) forging piece into heavy stock.
  - II. It is the process of separating (cut off) long piece of stock into specified length.
  - III. This process, Steel must be heated in a furnace to an temperature from  $850$  to  $950^\circ\text{C}$ .
  - IV. This process, Steel must be heated in a furnace to an temperature from  $1110$  to  $1200^\circ\text{C}$ .
- A) I and II                                      B) II and III  
C) III and I                                    D) IV and I
65. In forging operations, the name of process of increasing the thickness of bar at the expense of its length is known as
- A) Swaging                                  B) Setting down                    C) Up setting                              D) Drawing
66. Which are the statement correct in the case of Forging Fullers ?
- I. Fullers are used for necking down a piece of work.
  - II. Fullers are used to give smoothness and accuracy to article which are already shaped.
  - III. It is used for work which has to be reduced and finished to round, square, hexagonal form.
  - IV. They are made in top and bottom tool.
- A) I and II                                      B) II and III  
C) III and IV                                    D) IV and I
67. In Forging, the material that should possess a property, which is the ability to sustain substantial plastic deformation without fracture even in the presence of tensile stresses ?
- A) Tenacity                                  B) Ductility                              C) Toughness                              D) Hardness

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68. Which of the alloy Metal have good relative forgability ?  
A) Maraging steel  
B) Titanium alloy  
C) Copper alloy  
D) Molybdenum
69. In Forge weld, method of preparing the pieces of Metal for welding is known as  
A) Scrafing  
B) Stuffing  
C) Thinning  
D) Pritching
70. The process of producing correct size cylindrical hole by using hot puch over cylindrical Die in Forging operation is  
A) Shutting  
B) Heading  
C) Punching  
D) Drifting
71. What is the cutting angle of straight snips ?  
A) 60°  
B) 72°  
C) 87°  
D) 56°
72. Which mallet is used for hollowing operation ?  
A) Bossing mallet  
B) Rawhide mallet  
C) End-Faked mallet  
D) Ordinary mallet
73. What is the least count of a metric outside micrometer ?  
A) 0.1 mm  
B) 0.5 mm  
C) 0.2 mm  
D) 0.01 mm
74. The point angle of a Scriber is  
A) 5° to 8°  
B) 10° to 20°  
C) 6° to 9°  
D) 25° to 30°
75. Which type soldering iron is used for soldering heavy gauge metal ?  
A) Electric soldering iron  
B) Point soldering iron  
C) Handy soldering iron  
D) Straight soldering iron
76. The angle of bevelled edge in a hatchet stake is  
A) 65° to 70°  
B) 30° to 45°  
C) 20° to 30°  
D) 50° to 60°
77. Which sheet is used for making highly corrosive acid tanks ?  
A) Lead sheet  
B) Copper sheet  
C) Galvanised Iron sheet  
D) Aluminium sheet
78. The process of removing metal to the desired shape from the side or edge of a sheet is known as  
A) Embossing  
B) Curling  
C) Notching  
D) Hemming
79. The operation of producing thin-walled hollow shaped articles from sheet metal is known as  
A) Trimming  
B) Drawing  
C) Blanking  
D) Slitting

80. The allowance for Paned down joint is  
 A)  $P = 3W + 2T$       B)  $P = 2W + 4T$       C)  $P = 3W + 3T$       D)  $P = 2W + 2T$
81. What is the melting point of Zinc ?  
 A) 419°C      B) 216°C      C) 659°C      D) 232°C
82. The flame used for oxy-acetylene welding of copper must be  
 A) Carburising flame      B) Oxidizing flame  
 C) Neutral flame      D) Slightly oxidizing
83. Which of the following statements are correct ?  
 i. Never use oil or grease in any part or assembly of a gas welding plant.  
 ii. Use the match box to ignite oxy-acetylene flame.  
 iii. Always open the oxy-acetylene cylinder valves not more than one and a half turns.  
 A) Only i and iii      B) Only ii and iii  
 C) Only i and ii      D) All of the above
84. Which among the following weld defects are internal defects ?  
 i. Undercut  
 ii. Blowhole  
 iii. Spatters  
 iv. Crack  
 A) Only ii and iii      B) Only ii and iv  
 C) Only i and ii      D) Only i and iv
85. Which of the following are not in connection with gas welding ?  
 i. Welding blow pipe  
 ii. Electrode holder  
 iii. Welding cables  
 iv. Spark lighter  
 A) Only i and iii      B) Only i and iv  
 C) Only ii and iii      D) Only iii and iv
86. What are the uses of oxy-liquid petroleum gas flame ?  
 i. used for gas cutting steel  
 ii. used for underwater gas cutting of steel  
 iii. used for heating purposes  
 iv. used for brazing  
 A) Only i and ii      B) Only iii and iv  
 C) Only ii and iv      D) Only i and iii

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87. Which of the following statements are correct ?
- i. Carbide to water type acetylene generator produces acetylene pressure up to 1 kg/cm<sup>2</sup>.
  - ii. Water to carbide type acetylene generator is low pressure acetylene gas generator.
  - iii. Water to carbide type acetylene generator uses only a particular grade of calcium carbide.
  - iv. All of the above.
- A) Only i and iii    B) Only i and ii  
C) Only ii and iii                                         D) Only iv
88. What should be done in oxy-acetylene welding flash back happens ?
- i. Close the blowpipe oxygen valve first
  - ii. Cool the blowpipe in water
  - iii. Increase the acetylene gas pressure
  - iv. The nozzle touche the molten pool
- A) Only ii and iii                                         B) Only i and ii  
C) Only iii and iv                                         D) Only i and iv
89. Which among the following welding tests are destructive tests ?
- i. Tensile test
  - ii. Stethoscopic test
  - iii. Liquid penetrant test
  - iv. Impact test
- A) Only i and iv                                         B) Only ii and iii  
C) Only ii and iv                                         D) Only i and iii
90. For complete combustion one volume of acetylene requires
- A) 3.5 volume of oxygen                                 B) 1.5 volume of oxygen  
C) 2.5 volume of oxygen                                 D) 1 volume of oxygen
91. Which part of the lathe is used to support long workpieces ?
- A) Headstock     B) Tailstock  
C) Carriage     D) Tool post

92. Which one of the following is not the specification of a lathe machine ?  
A) Swing diameter over bed                      B) Length between centres  
C) Swing diameter over compound slide      D) Diameter of spindle bore
93. Four jaw chuck can be trued to the accuracy of  
A) .02 mm    B) .002 mm  
C) .10 mm    D) .05 mm
94. The property of cutting tool which help to withstand sudden load while cutting is  
A) Brittleness                                        B) Toughness  
C) Hot hardness                                      D) Ductility
95. The back gear is provided on the cone pulley type headstock in lathe machine to  
A) Increase the spindle speed                      B) Increase the cutting speed  
C) Reduce the machining time                      D) Reduce the spindle speed
96. Negative rake angle generally provided in the cutting tools which are made of  
A) High speed steel                                B) Diamond  
C) High carbon steel                                D) Carbide
97. What is the depth of cut given if the mild steel rod turn from diameter 40 mm to diameter 38 mm in one cut ?  
A) 1 mm                      B) 2 mm                      C) 5 mm                      D) 10 mm
98. Calculate the driver gear teeth required to cut 2.5 mm pitch thread in a lathe having lead screw of 5 mm pitch with driven gear of 100 teeth.  
A) 50                      B) 100                      C) 25                      D) 75
99. In oblique cutting, the cutting edge of tool is  
A) Parallel to tool axis                              B) Right angle to the tool Axis  
C) At an angle to the tool axis                      D) None of these
100. Never lean on the machine, classified into  
A) Machine safety                                      B) General safety  
C) Road safety    D) Personal safety
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Space for Rough Work