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QUESTION BANK FOR JOB LINKED TEST DISCIPLINE : MECHANICAL

1. "TAIL STOCK" of A LATHE MACHINE

- a) Supports the bed.
- b) Is a support for turning long work piece.
- c) Supports the carriage
- d) None of the above

2. If driven gear has 180 teeth and the drive gear has 150 teeth than the transmission ratio is

- a) 6:5
- b) 5:6
- c) None of the above

3. The thickness of cut produced by the feed is measured in

- a) MM
- b) Revolution per minute
- c) Inch
- d) Mm/revolution

4. The main constituent of a cemented carbide cutting tool is

- a) Bronze
- b) Tungsten
- c) Nickel
- d) Chromium

5. Facing is the operation to make the machined face

- a) Square to the work piece axis
- b) Parallel to the axis
- c) at 45° to the axis
- d) none of the above

6. "MILLING" is a operation in which the removal of metal is achieved by

- a) Feeding the job to the rotating cutter.
- b) Feeding the cutter the rotating job.
- c) None of the above.

7. The coolant used for milling cast iron is

- a) Water soluble oil
- b) Oil in soap solution
- c) Only soap solution
- d) Dry

8. M8 x 1.5 x 40 is a specification for

- a) British Whitworth threads
- b) Metric threads
- c) Length x Breadth x Height
- d) None of the above.

9. The tool used for cutting external threads is called.

- a) a Die
- b) a Tap
- c) a Drill-Bit
- d) a Nut

10. The limits of shaft and hole are selected in such a way that there is obstruction during assembling; this fit is called -

- a) Clearance fit
- b) Loose fit
- c) Free fit
- d) Interference fit

11. Tick the correct statement

- a) The open-belt drive the driver and the follower move in the same direction
- b) In the open-belt drive the driver and the follower move in the opposite direction.

12.

- a) In the crossed-belt drive the driver and the follower moves in the same direction
- b) In the crossed-belt drive the driver and the follower moves in the opposite direction.

13. Helical gearing is used to connect

- a) Parallel shafts
- b) Non parallel shafts
- c) Non intersecting shaft
- d) All of the above

14. Spur gear are used to connect

- a) Parallel shaft
- b) Non parallel shaft
- c) Intersecting shafts
- d) All of the above

15. In the turning operation, the motion of job is

- a) Rotary
- b) Forward translation
- c) Fixed
- d) None of the above

16. In the boring operation the motion of job is

- a) Rotary
- b) Forward translation
- c) Fixed
- d) None of the above.

17. In the drilling operation the motion of job is

- a) Rotary
- b) Forward translation
- c) Fixed
- d) None of the above

18. Purposes of cutting fluids are .

- a) To cool the tool
- b) To cool the work piece
- c) To improve surface finish
- d) To wash the chips away from the tool
- e) To cause chips break up into small parts
- f) To lubricate and reduce friction
- g) All of the above

19. For turning, boring and drilling of cast iron following coolants and lubricants are used:-

- a) Mineral lard oil
- b) Cutting oil
- c) Soap water
- d) None of the above.

20. Lead screw is used for

- a) Threading
- b) Facing
- c) Turning
- d) Boring

21. Standard angle for lathe centering

- a) 90°
- b) 60°
- c) 45°

22. For filing on lathe spindle should be run on

- a) High speed
- b) Low speed

23. While knurling tool should be

- a) Lubricated
- b) Non lubricated

24. The relation between number of thread and pitch

$$\text{Pitch} = \frac{1}{\text{No. of thread per unit}}$$

- a) True
- b) ~~False~~

25. We use steady rest to support for long shaft while turning

- a) True
- b) False

26. Shafts are usually checked with

- a) ~~Vernier calliper~~
- b) Scale
- c) Protector
- d) Calliper gauge

27. If $\tan \theta = 12/5$ how much is $\sin \theta$

- a) ~~5/12~~
- b) 5/13
- c) 13/12
- d) 12/13

28. What is 1 % of 150

- a) 1.5
- b) 15
- c) 3.0
- d) 10

29. One inch is equivalent to

- a) 25.4 millimeters
- b) 0.0254 metre
- c) 2.54 centimeter
- d) All of above

30. Rockwell hardness is indicated by

- a) BHN
- b) RC
- c) VHN
- d) None of the above

31. Pitch of a thread is

- a) Major outside diameter
- b) ~~Distance the nut advances during one revolution~~
- c) Axial distance between corresponding points on two consecutive turns

32. Gears

KARMACHARI SANGHATANA

- a) Transmit motion
 - b) Have only helical teeth
 - c) Do not transmit motion
 - d) Same as chain
33. Stress is defined as
- a) Force/Area
 - b) Force x Area
 - c) Area/Force
 - d) None of these
34. The sum of three angles of a triangles is
- a) 140°
 - b) 180°
 - c) 360°
35. What is the angle in Isometric view
- a) 45°
 - b) 30°
 - c) 60°
36. Chain drive is used in
- a) Car
 - b) Truck
 - c) Cycle
 - d) Bullock cart
37. What is the angle of ACME thread.
- a) 29°
 - b) 30°
 - c) 45°
38. What is the angle of BSW thread.
- a) $47\frac{1}{2}^\circ$
 - b) 50°
 - c) 55°
 - d) 60°
39. Which file will be used for finishing
- a) Rasp
 - b) Bastard
 - c) Smooth
40. Generally hardness of file lies between
- a) 60-66 HRC
 - b) 30-35 HRC

c) ✓ 40-45 HRC

41. Welding is •

- a) ✓ A process for joining metal parts
- b) A process to separate metals parts.
- c) Process to cut the item to required size
- d) None of the above.

42. Cast Iron is

- a) Ductile
- b) ✓ Brittle
- c) ✓ Elastic
- d) malleable

43. It is easy to give shape to cast iron than to copper

- a) True
- b) ✓ False

44. Screw can be cut on lathe

- a) ✓ True
- b) False

45. Most of the scooters have two stroke engines.

- a) True
- b) ✓ false

46. Cast Iron in comparison to copper is

- a) ✓ Harder
- b) Softer

47. How many Newton law of motion are there?

- a) 2
- b) ✓ 3
- c) 4

48. Gas used in Gas cutting

- a) ✓ $\text{CO}_2 + \text{Acetylene}$
- b) $\text{O}_2 \& \text{Acetylene}$
- c) $\text{N}_2 + \text{Acetylene}$
- d) $\text{O}_2 + \text{N}_2$

49. Gas used in Gas Brazing

- a) $\text{O}_2 + \text{Acetylene}$
- b) $\text{N}_2 + \text{Acetylene}$
- c) ✓ $\text{O}_2 + \text{N}_2$
- d) None of them.

50. Output voltage of AC welding transformer

- a) 415V
- b) 210V
- c) 110V
- d) 24V

51. Welding current for 3.25 mm electrode

- a) 1AMP
- b) 10 AMP
- c) 100 AMP
- d) 1000 AMP

52. Cutting current of AC welding transformer

- a) 3 AMP
- b) 30 AMP
- c) 300 AMP
- d) 3000 AMP

53. Welding sheet/Glass is used to protect eye from

- a) Ultra violet ray
- b) Heat
- c) High intense light
- d) A & C

54. What is electrode specified by AWS for welding mild steel?

- a) E 6027
- b) M 615499
- c) Tivim
- d) None of them

55. What is arcing time in arc welding

- a) Time required to melt definite quantity of weld metal
- b) Total time required for welding
- c) Time required for welding preparation
- d) None of them.

56. A Hand file is marked "second-cut" on its body-its means that it

- a) Longer than a needle file
- b) Coarser than a smooth file
- c) Removes more metal than a smooth file
- d) Both b) & c)

57. A hacksaw is used generally for

- a) Joining wooden pieces

- b) Finishing groove
- c) Polishing surfaces
- d) Cutting metallic material

58. A "Hot Chisels" is used for cutting

- a) soft material
- b) hard material in cold condition
- c) hot metal
- d) cold metal

59. Hammering is not permitted on the jaws of bench vice because:

- a) It makes too much noise
- b) Jaws are made of brittle material
- c) Hammer may break
- d) None of the above

60. A cross pane hammer has its pane

- a) At 90° to the handle
- b) At 0° to the handle
- c) At 45° to the handle
- d) None of the above

61. Slit gauges are used in fitting shop for

- a) Determining height of the finished job.
- b) Determining angle of the surface.
- c) Checking finish of the job.
- d) Checking Round-Ness of the finished job.

62. Try square is a tool for

- a) Drawing straight line.
- b) Checking 45° angle
- c) Checking flatness of surface
- d) None of the above.

63. "v" Block is a tool for

- a) Supporting round jobs while marking
- b) Drawing parallel lines.
- c) ~~Drawing perpendicular lines.~~
- d) ~~Measuring height of the job.~~

64. "Tenon" & "Mortise" joints are used for joining two pieces in

- a) Perpendicular direction.
- b) In same direction
- c) ~~One above the other~~
- d) ~~None of the above~~

KARMACHARI SANGHATANA

65. A Pipe Vice is used generally for holding and working upon

- a) Cylindrical jobs
- b) Flat surfaces
- c) Angle iron pieces.
- d) I-Beams

66. Bolt and nut provide a

- a) Permanent joint
- b) Flexible joint
- c) Corrosion free joint
- d) Temperature resistant joint

67. Brass can be cut, chipped and filed easily as compared to carbon steel because

- a) file, chisel or cutting tool is hard
- b) brass is soft as compared to carbon steel.
- c) Density of brass is more than carbon steel
- d) None of the above.

68. Bronze is an alloy of copper and tin, where as brass is

- a) An alloy of copper and aluminum
- b) An alloy of aluminum and tin.
- c) An alloy of zinc and tin
- d) An alloy of copper and zinc.

69. Material used for soldering process is an alloy of

- a) Copper and Lead
- b) Phosphorous and Aluminium
- c) Tin and Lead
- d) Lead and Zinc

70. A cutting torch utilizes two gases for cutting metal they are

- a) Nitrogen & chlorine
- b) Oxygen & nitrogen
- c) Oxygen & chlorine
- d) Oxygen & acetylene

71. Cutting angle of a twist drill is

- a) ~~100°~~
- b) ~~118°~~
- c) 90°
- d) 45°

72. In first angle projection "Plan" is shown in the drawing.

- a) Above the reference line
- b) Below the reference line
- c) None of the above

73. Feeler gauges are used for

- a) Measuring included angle of threads
- b) Checking clearance between two parts
- c) Checking surface finish
- d) None of the above

74. A 20 SWG sheet is

- a) Thicker than 25 SWG sheet
- b) Thinner than 25 SWG sheet
- c) None of the above.

75. Which file will be used for finishing job

- a) Rasp
- b) Bastard
- c) Smooth

76. What is the angle of single cut file.

- a) 15°
- b) 30°
- c) 45°

77. Write the angle of double cutfile.

- a) 45° & 70°
- b) 55°
- c) 70°
- d) none of these

78. What is the angle of BSW thread.

- a) $47.1/2^{\circ}$
- b) 50°
- c) 55°
- d) 60°

79. Taps are made from

- a) Tool steel
- b) Carbon steel
- c) High carbon steel

80. In manual arc welding process the current used is

- a) Higher than the voltage
- b) Lower than the voltage
- c) None of the above

KARMACHARI SANGHATANA

81. Reverse polarity is defined as
- a) DC (+) connected to workpiece
 - b) DC (-) connected to workpiece
 - c) None of the above
82. "BRAZING" process is carried out at a gas pressure of
- a) 10-15 kg/cm²
 - b) 02-15 PSIG
 - c) 50-100 PSIG.
83. "CUTTING TORCH" utilizes oxygen and acetylene gas in a ratio of
- a) 1:1
 - b) 1:2
 - c) 2:1
 - d) 3:1
84. The first pass given in a welding process is called
- a) The root pass
 - b) The cap
 - c) The filler pass
 - d) The fillet
85. A coating of non-conducting material is provided over the electrode which serves the purpose of
- a) Insulation
 - b) Protection of arc
 - c) Prevent oxidation of base material
 - d) None of the above
86. Dye-Penetrant-Test is used to detect
- a) Sub surface cracks
 - b) Slag inclusion
 - c) None of the above.
87. As the metal thickness increases the diameter of the electrode
- a) Decreases
 - b) Increases
 - c) Remains same
 - d) May increase or decrease
88. The charging pressure of oxygen cylinder is
- a) 14 kg/cm²
 - b) 1400 psi
 - c) 140 kg/cm²
 - d) 140 psi

89. Soft solders are alloys of

- a) Tin and copper
- b) Tin & lead
- c) Tin and aluminum
- d) All of the above

90. Maximum defects in arc welding occur

- a) During root run
- b) During finishing
- c) During intermediate
- d) None of the above

91. A welder Qualified for "6G"

- a) Can perform flat and horizontal welding
- b) Vertical welding only
- c) Flat welding only
- d) All position welding

92. Edge preparation of the plates for butt welding

- a) Is done to remove rust and dirt
- b) Provide space for filling material
- c) To inspect the surface of edge.
- d) All of the above

93. The single 'J' Tee Joint is used on plates

- a) 0 to 5mm thick
- b) 5 to 10 mm thick
- c) 10 to 15 mm thick
- d) 25 or more in thickness

94. The root gap between plates is normally equal to

- a) One inch and more
- b) Less than one inch
- c) 2-3 mm
- d) none of the above

95. Post weld heat treatment (PWHT) is carried out after welding for

- a) Reducing distortion
- b) Removing weld defects
- c) Restoring original strength of material
- d) None of the above.

96. Suspected leaking welding apparatus should be tested for leaks by

- a) flame
- b) spark lighter
- c) soapy water

- d) none of the above.
97. The welding technique recommended for welding titanium plates
- Manual arc welding
 - Submerged arc welding
 - Tig welding in open environment
 - Tig welding in closed argon room.
98. Stainless Steel is an alloy of
- Aluminum, Iron and Carbon
 - Magnesium, Aluminum, Iron and Carbon
 - Chromium, Nickel, Iron and Carbon
 - Nickel and Iron only.
99. Spot welding is the most common type of
- Tungsten arc welding
 - Mig welding
 - Gas welding.
 - Resistance welding.
100. Condition monitoring is:
- Break down maintenance
 - Preventive maintenance
 - Predictive maintenance
 - Shut down maintenance
101. Engine oil change period recommended by OEM for Cummins engines
- 250 - 300 Hrs
 - 400 - 500 Hrs
 - 500 - 600 Hrs
 - 700 - 800 Hrs.
102. Draw works power of E-1400 BHEL drilling rig is:
- 1000 HP
 - 1400 HP
 - 2000 HP
 - 3000 HP
103. Choose correct statement about slush pump.
- Slush pump does not circulates drilling fluid.
 - Larger section of slush pump is power-end and smaller section is fluid-end.
 - Power end transfers fluid and fluid end transfers the power.
104. Which lubricant has maximum cooling property?
- Oil
 - Grease

- c) Dry lubricants
- d) Both a) and c)

105. Drilling fluid (mud) act to :

- a) Wash away chips and debris from hole
- b) Cool the drill bit
- c) Lubricates drill bit
- d) All of the above
- e) Both a) and c)

106. Centrifugal pumps are ideal for :

- a) Mud mixing operation
- b) Supercharging slush pumps
- c) De-sander and degassing
- d) All of the above

107. Choose incorrect statement about swivel

- a) It supports the drill stem
- b) It allows for rotation of the Kelly.
- c) It provides a connection for the rotary hose to allow passage of drilling fluid
- d) It does not allow rotation of drill string.

108. Desander enhances Drilling efficiency by :

- a) Reducing chemical treatment / Mud costs.
- b) Increasing Bit life and penetration rates.
- c) Reducing differential sticking.
- d) All of the above.
- e) Both a) & b)

109. Which one of the following is not internal combustion engine?

- a) Petrol engine
- b) Diesel engine
- c) Gas engine
- d) Steam engine

110. Function of Lubricating oil in the equipment :

- a) Lubricates
- b) Cleans
- c) Cools
- d) Seals
- e) All of the above.
- f) Lubricates, cleans and cools

111. The main function of safety valve in Mud pump is :

- a) To bleed excess pressure
- b) To bleed excess fluid

- c) For safety of Manifold
- d) None of the above

112. The main function of clamping rotary hose with wire rope is:

- a) To avoid accident
- b) To avoid bumping of swivel
- c) For good ROP
- d) To avoid vibration.

113. While Drilling the indication of Blow Out is indicated by:

- a) Drillometer.
- b) Voltmeter
- c) At Derrick floor
- d) Mud gain / volume in tank

114. Koomy BOP Accumulator unit can :

- a) Close open and blind RAMS
- b) Close annular BOP
- c) Close choke and kill lines.
- d) Close all BOP

115. Function of Crownomatic device in rig is for :

- a) Adjusting traveling block for drill pipe length.
- b) Lubricating crown block & traveling block.
- c) Preventing hitting of traveling block to crown block.
- d) All of the above.

116. Water expelling extinguisher is used for which type of fire?

- a) "A" class fire
- b) "B" class fire
- c) "C" class fire
- d) all of the above

117. How many different classes of fire are there?

- a) 3
- b) 4
- c) 5
- d) 7

118. Emergency escape device in drilling rigs means:

- a) ~~Safety belt during working at height.~~
- b) ~~Personnel protective equipment (PPE)~~
- c) ~~Device used by topman to slide down quickly in-emergency.~~
- d) Running away from hazardous area.
- e) All of the above.

KARMACHARI SANGHATANA

119. Reason of fluid knock or Hammer in mud-pump may be

- a) Air entering suction line.
- b) Low oil pressure
- c) Low lube oil in oil sump
- d) High water temperature

120. Which of the following safety device is not approved by DGMS to install in diesel engines of rigs so that engine can be tripped in abnormality?

- a) HMSO
- b) AMOT
- c) Electrical
- d) None of the above