Question Booklet No.	006000

Skill Development and Entrepreneurship Department

Directorate of Vocational Education and Training

Directorate of Skill Development, Employment and Entrepreneurship

Question Paper Group Name: Mechanical-3

Question Paper Post Names: Craft Instructor-Fitter, Craft Instructor-Turner

Duration: 60 Minutes **Total Question: 40**

INSTRUCTIONS

1. This Question Paper Booklet contents 40 mandatory questions. Candidate should check the Question Paper Booklet and ensure that it contents all pages and questions before starting to answer. If candidate finds any problem pertaining to printing/ binding/ incomplete pages etc, candidate should immediately get the Question Paper replaced from the invigilator.
2. Candidate has to write his/ her seat number in this block.

3. The Question Booklet Number as printed above should be mentioned at the appropriate place on the OMR Answer Sheet.
4. All the Questions are provided with 4 options as 1, 2, 3 and 4. Candidate should select the most correct Option and mention the Option Number on the OMR Answer Sheet in front of the respective Question Number by fully shading the Option Number with **BLACK INK BALL POINT PEN** Only.
5. All Questions carry equal marks i.e. 1 Question has a weightage of 1 marks. Candidate should mind the available time for the examination and solve the questions accordingly.
6. The option shaded once on the OMR Answer Sheet should not be roughed or in any other way changed. Thus candidate should take utmost care while marking their options on OMR Answer Sheet. Such changes if any or any attempt to rough/ change options shall not be checked by the authorities.
7. Marks shall be awarded to the correct answers only during the evaluation of the OMR Answer Sheet. No marks shall be deducted for registering wrong answers (shading wrong option) or not attempting questions. Thus there is **NO NEGATIVE MARKING SYSTEM**.
8. All the rough work has to be done on the sheet provided for Rough Work in the Question Booklet only. Writing anything on the Question Paper Booklet, OMR Answer Sheet or any other Paper Sheet shall be treated as an unfair means and entitle for action under **"Prohibition of Unfair Practices during examination Ordinance – 1982"**.
9. Method of Shading the Correct Option on the OMR Answer Sheet:

   Q.No. 25.How many Centimeters make 1 Meter?

   (1) 10 (2) 100
   (3) 1000 (4) 10000

   The Correct Option for this Question is (2) and hence the (2) option on the OMR Answer Sheet in front of Question Number 25 has to be shaded as following.

Correct Method of Shading Wrong Method of Shading

USE ONLY BLACK INK BALL POINT PEN FOR SHADING

IMPORTANT

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THIS QUESTION PAPER BOOKLET AND PART – 1 OF OMR ANSWER SHEET HAS TO BE SUBMITTED TO THE INVIGILATOR AFTER THE EXAMINATION.

1. Which file is used to make accurate size of work piece with high degree of finish?

1. Rough file
2. Bastard file
3. Smooth file
4. Dead smooth file

2. As per System International 1 micron means

1. 0.1 mm
2. 0.01 mm
3. 0.001 mm
4. 0.000001 mm

3. Feed in drilling depends on

1. Finish required
2. Drill material / Type of drill
3. material to be drilled
3. All of the above

4. A screw thread designated by M 24 X 2 has an angle of thread equal to

1. 55^0
2. 60^0
3. 29^0
4. 45^0

5. Percentage of carbon in mild steel is

1. 0.5% to 0.7 %
2. 0.7 % to 0.9 %
3. 0.15% to 0.13 %
4. 1.1 % to 1.4 %

6. Width of a small slit of size 0.0125 mm is to be measured / checked which measuring device will you use?

1. Inside micrometer
2. Small jaws of vernier calipers
3. Steel rule
4. Fieler gauges

7. The lead of the micrometer screw gauge is 0.5 mm. The number of graduations along the circumference of the thimble of the micrometer are 50. What is the least count of the micrometer screw gauge?

1. 0.005 mm
2. 0.01 mm
3. 100 microns
4. 0.1 mm

8. Which of the following cutting fluids is the most popular variety because of ability to be used for number of machining operations and cheapness?

1. Soluble oil
2. Servosynth 2
3. Servosynth 5
4. Benzene

9. Which of the following measuring devices is not an end standard ?

1. Micrometer screw gauge
2. Vernier calipers
3. Slip gauges
3. Steel rule

10. 30H796 is the designation of a fit what does '30' represent?

1. Exact size of hole, (shaft is smaller)
2. Exact size of shaft
3. Basic size, common to both hole and shaft
4. None of these above

11. Which type of fit is $Hg\text{-}d_{10}$?

1. Interference fit
2. Clearance fit
3. Transition fit
4. None of the above

12. Which of the following is an interference fit?

1. $H_7\text{-}K_6$
2. $H_7\text{-}n_6$
3. $H_7\text{-}S_6$
4. $H_8\text{-}f_7$

13. Which is the symbol for cylindricity in the context of form tolerances?

1. 
2. 
3. 
4. 

14. Following is not the commonly available size of sine bar to check taper angle.

1. 100 mm
2. 200 mm
3. 250 mm
4. 145 mm

15. What is the range of carbon content in tool steels?

1. 0.9% to 1.4%
2. 0.25% to 0.6%
3. 0.6% to 0.9%
4. Below 0.25%

16. Carbon content in steel required for full hardening is

1. 0.25% C
2. 0.4% C
3. 0.45%
4. Above 0.6% C

17 . What is the average temperature produced by arc in the arc welding process?

1. About 6000°C
2. about 600 °C
3. about 100 °C
4. about 1000°C

18. What is the range of roughness values produced in filing?

1. $^{Ra=}$1.5 to 50 Microns
2. $^{Ra=}$ 1.6 to 25 Microns
3. $^{Ra=}$ 0.04 to 0.16 Microns
4. $^{Ra=}$ 0.25 to 25 Microns

19. For Step turning on lathe we need

1. Plain turning tool
2. Parting tool
3. Broad nose tool
4. Facing tool

20. The tempering temperature for carbon steels are

1. Below 220°C
2. Above 320°C
3. Above 370 °C
4. Between 220 °C to 320 °C

21. Effect of coolant on cutting tool is

1. Increases tool life
2. Revents chips sticking to tool
3. Reduces tool forces on the job
4. All of the above

22. For a single point lathe cutting tool the value of top rake angle is usually

1. 10 degree
2. 15 degree
3. 65 degree
4. 45 degree

23. For turning soft materials tool angles provided are

1. Very small
2. Large
3. 2 degree
4. 3 degree

24. Following instrument is very useful in various alignment tests on lathe machines and drilling machines

1. Vernier calipers
2. Spring Calipers
3. Feeler gauges
4. Dial indicator

25. ' Set over' to turn taper on the entire length of work piece having large diameter D and small diameter d is calculated by

1. $\frac{D+d}{2}$
2. $D+\frac{d}{2}$
3. $\frac{D-d}{2}$
4. $\frac{D}{2}+d$

26. The lead of a double threaded screw with pitch equal to 2 mm is

1. 2 mm
2. 4 mm
3. 8 mm
4. 6 mm

27. Square threads are used in

1. Lead screw of machines
2. Screw of screw jack
3. Spindle threads of vices
4. All of the above

28. A 10 TPI thread has a pitch of

1. 2 mm
2. 5 mm
3. 2.54 mm
4. 1.5 inch

29. Cycle time of operation can be reduced by

1. Reducing setting time
2. Reducing equality
3. Reducing working hours
4. Reducing lubricants

30. Knurling tool is used for

1. Stock removal
2. Rough Cutting
3. Obtaining rough surface for better hand grip
4. None of the above

31. Boring is not done with

1. Boring bar
2. Boring tool
3. Facing tool
3. File

32. Accuracy of machine tool is tested periodically. This is required to ensure

1. Accuracy of operations on the machine
2. Accuracy of measuring devices
3. Performance of operator
4. None of the above

33. Taps and dies are

1. Chamfering tools
2. Finishing tools
3 Threading tools
4. None of the above

34. Taper angle is measured with the help of

1. Angle dekkar
2. Micrometer screw gauge
3. Feeler gauges
4. None of the above

35. Flatness of the lathe machine bed is tested with

1. Micrometer screw gauge
2. Steel rule
3. Spirit level
4. None of the above

36. Following is not method of brazing carbide tips

1. Furnace brazing
2. Induction brazing
3. Torch brazing
4. Fillet brazing

37. Cutting speeds recommended for H.S.S. Drills for mild steels is

1. 23 m/min
2. 8 m/min
3. 10 m/min
4. 40 m/min

38. For 20 mm diameter drill feed per revolution recommended is

1. 0.1 mm / rev
2. 0.28 mm / rev
3. 0.34 mm / rev
4. 0.16 mm / rev

39. Following is the least count of widely used metric vernier height gauge

1. 0.1 mm
2. 0.001 mm
3. 0.5 mm
4. 0.02 mm

40. A lead screw of lathe has 6 mm pitch and is required to be cut 2 mm pitch threads. Then speed of gear on spindle shall be ..... speed of gear on lend screw.

1. Equal to
2. 3 times
3. 1/3 times
4. 6 times

SPACE FOR ROUGH WORK