

Test Booklet  
Series

**A**

Paper No.

**02**

Written Test Paper, 2021

**SKILL INSTRUCTOR  
(TOOL & DIE)**

Test Booklet No.

Name of Applicant ..... Answer Sheet No. ....

Application No. : SVSU/2020/Estt/NT/ ..... Signature of Applicant : .....

Date of Examination: **25 / 12 / 2021**

Signature of the Invigilator(s)

1. ....

Time of Examination : .....

2. ....

**Duration : 60 Minutes]**

**[Maximum Marks : 50**

**IMPORTANT INSTRUCTIONS**

- (i) The question paper is in the form of Test-Booklet containing **50 (Fifty)** questions. All questions are compulsory. Each question carries four answers marked (A), (B), (C) and (D), out of which only one is correct.
- (ii) On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **50** questions. Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.
- (iii) A separate Answer-Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are **50** rows containing four circles each. One row pertains to one question.
- (iv) The candidate should write his/her Application number at the places provided on the cover page of the Test-Booklet/Question Paper and on the Answer-Sheet and NOWHERE ELSE.
- (v) No second Test-Booklet/Question Paper and Answer-Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.
- (vi) For every correct answer of the question **One (1) mark will be awarded**. For every unattempted question, Zero (0) mark shall be awarded. **There is no Negative Marking**.
- (vii) Marking shall be done only on the basis of answers responded on the Answer-Sheet.
- (viii) To mark the answer on the Answer-Sheet, candidate should **darken** the appropriate circle in the row of each question with Blue or Black pen.
- (ix) For each question only **one** circle should be **darkened** as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the question will be treated as cancelled.
- (x) The candidates should not remove any paper from the Test-Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.
- (xi) Rough work may be done on the blank space provided in the Test-Booklet/Question Paper only.
- (xii) *Mobile phones (even in Switch-off mode) and such other communication/programmable devices are not allowed inside the examination hall.*
- (xiii) No candidate shall be permitted to leave the examination hall before the expiry of the time.

**DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO.**

[P.T.O.

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1. In blanking operation the clearance provided is
  - (A) 50% on punch and 50% on die
  - (B) on die
  - (C) on punch
  - (D) on die or punch depending upon designer's choice
2. The tool life increases with
  - (A) increase in side cutting edge angle
  - (B) decrease in side rake angle
  - (C) decrease in nose angle
  - (D) decrease in back rake angle
3. Internal gears can be cut by
  - (A) hobbing
  - (B) gear shaping with rack cutter
  - (C) gear shaping with pinion cutter
  - (D) gang milling
4. Compound dies performs
  - (A) two or more operations at one station in one stroke
  - (B) two or more operations at different stations in one stroke
  - (C) only one operation and that too at one work station
  - (D) two operations at two different work stations in the same stroke
5. For mild steel, the hot forging temperature range is
  - (A) 400°C to 600°C
  - (B) 700°C to 900°C
  - (C) 1000°C to 1200°C
  - (D) 1300°C to 1500°C
6. Which one of the following processes is performed in powder metallurgy to produce self-lubricating properties in sintered parts?
  - (A) Infiltration
  - (B) Impregnation
  - (C) Plating
  - (D) Graphitisation
7. Consider the following machining conditions:
  - (A) Ductile material
  - (B) High cutting speed
  - (C) Small rake angle
  - (D) Small uncut chip thickness
8. Extrusion force does not depend upon the
  - (A) extrusion ratio
  - (B) type of extrusion process
  - (C) material of the die
  - (D) working temperature
9. Magnesium is extruded and not rolled because
  - (A) It has a low melting point
  - (B) It has a low density
  - (C) Its reactivity with roll material is high
  - (D) It has a close-packed hexagonal structure
10. The approximately variation of the tool life exponent 'n' of cemented carbide tools is
  - (A) 0.03 to 0.08
  - (B) 0.08 to 0.20
  - (C) 0.20 to 0.48
  - (D) 0.48 to 0.70

11. Which one of the following precessing sequences will give the best accuracy as well as surface finish?  
 (A) Drilling, Reaming, Grinding  
 (B) Drilling, Boring, Grinding  
 (C) Drilling, Reaming, Lapping  
 (D) Reaming, Electroplating
12. The type of wear that occurs due to the cutting action of the particles in the cutting fluid is referred to as  
 (A) attritious wear  
 (B) diffusion wear  
 (C) erosive wear  
 (D) corrosive wear
13. For reaming operation of blind hole, the type of reamer required is  
 (A) straight flute reamer  
 (B) right hand spiral fluted reamer  
 (C) left hand spiral fluted reamer  
 (D) None of the above
14. Which one of the following grinding wheels (with grade, grit and bond) is suitable for cutter grinding?  
 (A) K60 vitrified  
 (B) K320 vitrified  
 (C) T60 resinoid  
 (D) T320 resinoid
15. In parts produced by powder metallurgy process, pre-sintering is done to  
 (A) increase the toughness of the component  
 (B) increase the density of the component  
 (C) facilitate bonding of non-metallic particles  
 (D) facilitate machining of the part
16. As the cutting speed increases  
 (A) more heat is transmitted to the work piece and less heat is transmitted to the tool  
 (B) more heat is carried away by the chip and less heat is transmitted to the tool  
 (C) more heat is transmitted to both the chip and the tool  
 (D) more heat is transmitted to both the work piece and the tool
17. Which of the following are produced by powder metallurgy process?  
 I. Cemented carbide dies,  
 II. Porous bearings,  
 III. Small magnets,  
 IV. Parts with intricate shapes.  
 Select the correct answer using the codes given below :  
 (A) I, II and III  
 (B) I, II and IV  
 (C) II, III and IV  
 (D) I, III and IV
18. Which of the following is a mechanism for mechanized movements of the carriage along longitudinal axis?  
 (A) Cross-slide  
 (B) Compound rest  
 (C) Apron  
 (D) Saddle
19. A flat surface can be produced by a lathe machine, if the cutting tool moves  
 (A) parallel to the axis of rotation of work piece  
 (B) perpendicular to the axis of rotation of work piece  
 (C) at an angle of 450  
 (D) None of the above

20. On drilling machine, which process is known as reaming?
- Enlargement of existing hole
  - Hole made by removal of metal along the hole circumference
  - Smoothly finishing and accurately sizing a drilled hole
  - All the above
21. The function of taper turning process is to
- reduce the diameter of a work piece along its length
  - reduce the diameter by removing material about an axis offset from the axis of work piece
  - remove the material from end surface of a work piece
  - All the above
22. The process of bevelling sharp ends of a work piece is called as
- knurling
  - grooving
  - facing
  - chamfering
23. What is the function of cone pulley drive in lathe machines?
- Drive the lead screw
  - Change the spindle speed
  - Drive the tail-stock
  - All the above
24. Which process squeezes metals into peaks and troughs with plastic deformation?
- Grooving
  - Knurling
  - Reaming
  - None of the above
25. Which of the following operations is/are performed on a lathe machine?
- Spot-facing
  - Parting
  - Reaming
  - All the above
26. The process of chamfering the entrance of a drilled hole is known as
- counter-boring
  - counter-sinking
  - counter-fillet
  - trepanning
27. Which of the following statements is/are false for machine tools?
- Pillar drilling machine drills holes up to 75 mm
  - Regulating wheel is a component of surface grinding machine
  - Sensitive drilling machine is also known as bench drilling machine
  - The chuck of an internal grinding machine placed in tailstock is driven by an electric motor
- Only 1
  - 2 and 4
  - 1 and 3
  - All the above
28. In drawing operation, increase of punch radius
- Has much influence on punch load and it decreases
  - Does not influence the punch load much
  - Punch load increases
  - Punch load depends on other factors

29. In drawing operation, increase of die radius  
 (A) Has much influence on punch load and it decreases  
 (B) Does not influence the punch load much  
 (C) Punch load increases  
 (D) Punch load depends on other factors
30. In bending operation, the metal takes shape of  
 (A) Die  
 (B) Punch  
 (C) Average of two  
 (D) Could take any shape
31. In piercing operation, the clearance is provided on  
 (A) Die  
 (B) Punch  
 (C) Half on die and half on punch  
 (D) May be provided on any member
32. In blanking operation, the clearance is provided on  
 (A) Die  
 (B) Punch  
 (C) Half on die and half on punch  
 (D) May be provided on any member
33. Punching a number of holes in a sheet is known as  
 (A) Perforating  
 (B) Parting  
 (C) Notching  
 (D) Lancing
34. Shearing the sheet into two or more pieces is known as?  
 (A) Perforating  
 (B) Parting  
 (C) Notching  
 (D) Lancing
35. Removing the pieces from the edge in shearing operation is known as  
 (A) Perforating  
 (B) Parting  
 (C) Notching  
 (D) Lancing
36. Leaving a tab without removing any material is known as  
 (A) Perforating  
 (B) Parting  
 (C) Notching  
 (D) Lancing
37. Moving a small straight punch up and down rapidly into a die is done by a process known as  
 (A) Perforating  
 (B) Parting  
 (C) Nibbling  
 (D) Lancing
38. As the thickness of sheet is increased the clearance needed will also  
 (A) Increase  
 (B) Decrease  
 (C) No effect  
 (D) First decreases and then increases
39. Bevelling is particularly suitable for shearing of  
 (A) Thin blanks  
 (B) Thick blanks  
 (C) Very thin blanks  
 (D) Medium thin blanks

40. Which of the following is a type of die?  
 (A) Simple dies  
 (B) Progressive dies  
 (C) Compound die  
 (D) All of the Mentioned
41. Which of the following die can perform multiple operations such as blanking, punching, notching etc.?  
 (A) Simple dies  
 (B) Progressive dies  
 (C) Compound die  
 (D) Impact dies
42. As the clearance increases, the punch force required?  
 (A) Decreases  
 (B) Increases  
 (C) Remains same  
 (D) First increases and then decreases
43. In which of the following process the work piece is pulled through a die resulting in reduction of area?  
 (A) Forging  
 (B) Drawing  
 (C) Forming  
 (D) Extrusion
44. In drawing which angle allows the introduction of lubricant into the working zone?  
 (A) Entrance angle  
 (B) Die angle  
 (C) Semi-die angle  
 (D) Relief angle
45. Degree of drawing is measured in terms of  
 (A) Reduction in stress  
 (B) Reduction in force  
 (C) Reduction in area  
 (D) Reduction in strain
46. The maximum reduction in cross-sectional area per pass is  
 (A) 45%  
 (B) 63%  
 (C) 55%  
 (D) 67%
47. Which of the following die is used in drawing flat strips?  
 (A) Square shaped  
 (B) Rectangular shaped  
 (C) Circular shaped  
 (D) Wedge shaped
48. As the reduction increases, drawing force must be  
 (A) Decreases  
 (B) Increases  
 (C) Does not change  
 (D) First increases and then decreases
49. Which of the following angle influence the drawing force and the quality of drawn products?  
 (A) Entrance angle  
 (B) Die angle  
 (C) Relief angle  
 (D) Flake angle
50. Size of shaper is given by  
 (A) stroke length  
 (B) motor power  
 (C) weight of the machine  
 (D) rate size

## ROUGH WORK



### ANSWER KEY Skill Instructor(Tool & Die)

1. C	26. B
2. A	27. B
3. C	28. B
4. A	29. A
5. C	30. B
6. B	31. A
7. A	32. B
8. C	33. A
9. A	34. B
10. C	35. C
11. C	36. D
12. C	37. C
13. B	38. A
14. A	39. B
15. A	40. D
16. B	41. B
17. A	42. A
18. C	43. B
19. B	44. A
20. C	45. C
21. A	46. B
22. D	47. D
23. B	48. B
24. B	49. B
25. D	50. A