

[UKSSSC - JE (ME) MACHINING]
[SET-I]

1. The broaching operation in which the tool moves past the stationary work is known as

- a) Push broaching
- b) Pull broaching
- c) Continuous broaching
- d) Surface broaching

2. The back rake and side rake of round nose tool are

- a) +5 to + 10° b) - 5 to -10°
- c) Zero d) + 10 to + 15°

3. In which of the following operation on lathe, the spindle speed will be minimum

- a) Knurling b) Fine finishing
- c) Taper turning d) Thread cutting

4. The usual ratio of forward and return stroke in shape is

- a) 2: 1 b) 1: 2
- c) 2 : 3 d) 3: 2

5. Which of the following lathe operations requires that the cutting edge of a tool bit be placed exactly on the work centre-line

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

6. Lathe centers are provided with the following standard taper

- a) Morse b) British
- c) Metric d) Sharpe

7. Brown and sharp taper is generally used in

- a) Lathes b) Milling machines
- c) Shapers d) Drills

8. In order to turn taper on length l with two end diameters d_1 and d_2 set over the tailstock Stover required is

- a) $d_1 - d_2$ b) $\frac{d_1 - d_2}{2}$
- c) $\frac{d_1 - d_2}{2l}$ d) $\frac{d_1 - d_2}{l}$

9. Quick return mechanism is used in

- a) Milling machine b) broaching machine
- c) Grinding machine d) Slotter

10. The spindle speeds of machine tools are usually designed to follow

- a) Arithmetical progression
- b) Geometrical progression
- c) Harmonical progression
- d) Logarithmic progression

11. Undercutting is the operation of cutting

- a) Below the specified size
- b) A deep groove
- c) A spiral
- d) A groove next to shoulder

12. The cutting angle of chisel for cutting mild steel is

- a) 30° b) 50°
- c) 70° d) 90°

13. If the diameter of a job being machined on lathe is doubled and speed is halved, the cutting time will be

- a) Same b) Half
- c) Double d) Four time

14. The angle between the lathe centers is

- a) 15° b) 30°
- c) 45° d) 60°

15. Square or irregular shaped work piece for turning is usually mounted in

- a) Three jaw chuck b) Independent chuck
- c) Colet chuck d) Bar chuck

16. Friction between chip and tool can be reduced by

- a) Increasing rake angle
- b) Increasing shear angle
- c) Increasing depth of cut
- d) Increasing sliding velocity

17. For the same amount of metal removal, the shear stress induced in orthogonal cutting as compared to oblique cutting is

- a) More b) Less
- c) Equal d) There is no such correlation

18. The increase in back rake angle would affect the surface finish as follows

- a) Improve b) Deteriorate
- c) Unchanged d) There is no such correlation

19. The cutting speed of the tool in a mechanical shaper is

- a) Maximum at the beginning of the cutting stroke
- b) Maximum at the end of the cutting stroke
- c) Maximum at the middle of the cutting stroke
- d) Uniform throughout the cutting stroke

20. Which of the following work holding device is preferred for shaping a key-way in a cylindrical shaft

- a) A V-block b) An angle plate
- c) A dividing head d) A shaper vise

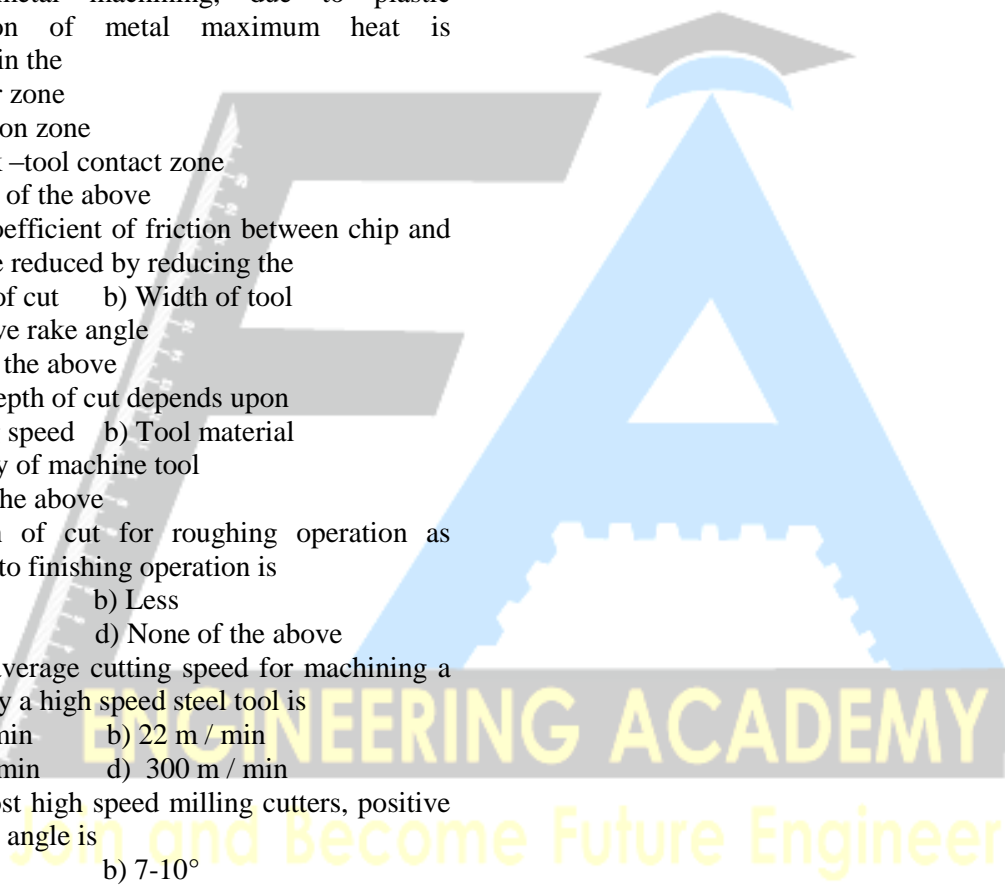
21. Which of the following is not the part of a shaper

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ACADEMY**Class Centre-Pithuwala | Karanpur; HO: Shimla bypass road near Government polytechnic Pithuwala Dehradun
Mob:08449597123,09411340612 Web: www.engineeringacademy.co.in
E-mail:engineeringacademyddn@gmail.com

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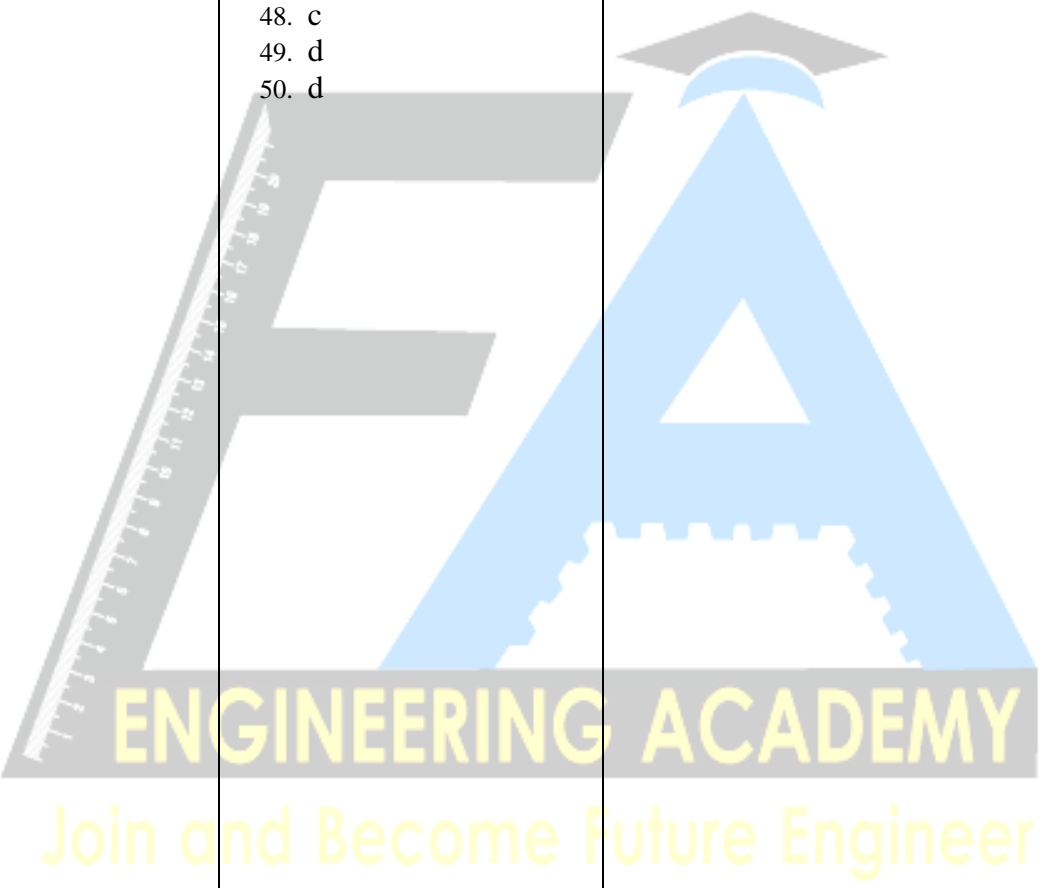
- a) Lapper b) Ram
c) Table d) Cross slide
22. Addition of lead, sulphur and phosphorous to low carbon steels helps in achieving
- a) Better surface quality
b) Reduction of built up edge
c) Breaking up of chips
d) All of the above
23. Which of the following abrasives is the hardest
- a) Al_2O_3 (Aluminium Oxide)
b) Si C (Silicon Carbide)
c) B_4C (Boron Carbide)
d) Diamond
24. For drilling operation, the cylindrical job should always be clamped on a
- a) Colet b) Socket
c) Jaw d) V-block
25. The cutting edges of a standard twist drill are called
- a) Flutes b) Lips
c) Wedges d) Flanks
26. The helical grooves which extend to the full length of the drill body are called
- a) Lips b) Cutting edges
c) Margins d) Flutes
27. The number of helical grooves which are present in a standard twist drill is usually
- a) One b) Two
c) Four d) Five
28. Cutting force and power involved in a machine tool can be measured by using
- a) Pyrometer b) Comparator
c) Transducer d) Dynamometer
29. The operation of milling two sides of a work piece simultaneously is called
- a) Gang milling b) Climb milling
c) Square milling d) Straddle milling
30. Burnishing is an operation of
- a) Heat treatment b) Work piece
c) Gear finishing d) Surface treatment
31. To obtain fine finish cuts in milling
- a) The cutting speed should be decreased and the feed increased
b) The cutting speed should be increased and the feed decreased
c) Both the cutting speed and feed should be decreased
d) There is no such criterion
32. Plain milling cutters should be
- a) Smaller than the width of the flat surface to be machined
b) Wider than the flat surface to be machined
c) Equal to width of flat surface to be machined
d) None of the above
33. A universal dividing head is used to perform a milling operation by
- a) Plain indexing b) Direct indexing
c) Differential indexing
d) Compound indexing
34. A preface square on the end of a round shaft can be milled by mounting it on
- a) A differential b) A compound rest
c) An index plate d) A diving head
35. In helical milling, the ratio of the circumference of the gear blank to the lead of the helix gives the
- a) Angle setting of the machine table
b) Proper speed to use
c) Proper feed and depth of cut required
d) No. of teeth to be cut
36. The accurate spacing of teeth in a gear blank requires the use of
- a) A dividing head b) An index plate
c) A gear tooth vernier d) Universal table
37. Helical gears can be cut on following type of milling machine
- a) Vertical b) Horizontal
c) Universal d) Drum-type
38. It is required to index 119 divisions. It can be done by
- a) Simple indexing b) Direct indexing
c) Compound indexing
d) Differential indexing
39. A quill is a
- a) Tool holding device
b) Work clamping device
c) Tool used for milling operation
d) Device used in heat treatment operation
40. The relationship between the shear angle ϕ , friction angle β and cutting rake angle α , and the machining constant C for the work material is
- a) $2\phi + \beta - \alpha = C$ b) $2\alpha + \beta - \phi = C$
c) $2\beta + \alpha - \phi = C$ d) $2\phi + \alpha - \beta = C$
41. Which of the following tools are harder and more wear resistant than tungsten carbide but are weaker in tension
- a) Low carbon steel tools

- b) High carbon steel tools
c) H.S.S. tools
d) Ceramic tools
42. The first symbol in a grinding wheel code is the
a) Bond type b) Abrasive type
c) Grain size d) Structure
43. Chip compression factor is equal to
a) Chip thickness ratio
b) 1/ chip thickness ratio
c) Chip thickness ratio \times shear angle
d) None of the above
44. In metal machining, due to plastic deformation of metal maximum heat is generated in the
a) Shear zone
b) Friction zone
c) Work –tool contact zone
d) None of the above
45. The coefficient of friction between chip and tool can be reduced by reducing the
a) Depth of cut b) Width of tool
c) Effective rake angle
d) Any of the above
46. The depth of cut depends upon
a) Cutting speed b) Tool material
c) Rigidity of machine tool
d) All of the above
47. Depth of cut for roughing operation as compared to finishing operation is
a) More b) Less
c) Same d) None of the above
48. The average cutting speed for machining a cast iron by a high speed steel tool is
a) 10 m/ min b) 22 m / min
c) 30 m / min d) 300 m / min
49. In most high speed milling cutters, positive radial rake angle is
a) 10-15° b) 7-10°
c) 20-25° d) 15-20°
50. In machine tools, chatter is due to
a) Free vibrations
b) Random vibrations
c) Forced vibrations
d) Self-excited vibrations



SET-I ANSWER-KEY

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



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Mob:08449597123,09411340612 Web: www.engineeringacademy.co.in
E-mail:engineeringacademyddn@gmail.com

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