BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET-A

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1101 **Time: 2 Hour**

Course Name: Assembly & Measuring **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

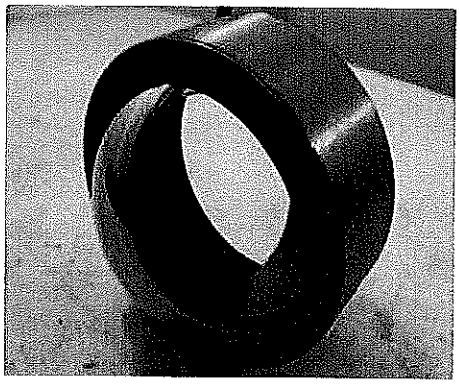
1. For a properly lubricated chain, efficiency is from-
   a) 70-80%
   b) 90-92%
   c) 80-90%
   d) 96-98%
2. Non-metallic gaskets are made up of
   a) Wood & Brass
   b) Aluminum & Rubber
   c) Rubber & Asbestos
   d) All of the above
3. Example of semisolid lubricant is:
   a) Mineral oil
   b) Grease
   c) Graphite
   d) Vegetable oil
4. For Which applications plunger dial indicators are not used?
   a) Inspecting surface for flatness.
   b) Aligning Work piece
   c) Inspecting shaft roundness
   d) Measuring boring diameter
5. V-belts have a cross section.
   a) Circular
   b) Triangular
   c) Trapezoidal
   d) Rectangular

6. Outside Taper can be checked by
   a) Taper Plug Gauge
   b) Outside Micrometer
   c) Ring Gauge
   d) Taper Ring Gauge
7. "Stem and stylus must be at right angle to the measurement surface." This sentence suit for
   a) Puppet dial test indicator
   b) Plunger Type Test Indicator
   c) Sine Bar
   d) None of the above
8. Standard Temperature for measurement is
   a) 25 C
   b) 20 C
   c) 18 C
   d) None of the above
9. Least size available in Slip Gauge block set which you have used: -
   a) 1.0005
   b) 1.05
   c) 1.050
   d) 1.005
10. Radius gauge is type of.
   a) Form gauge.
   b) Limit gauge.
   c) Dimensional gauge
   d) Both form and limit gauge.

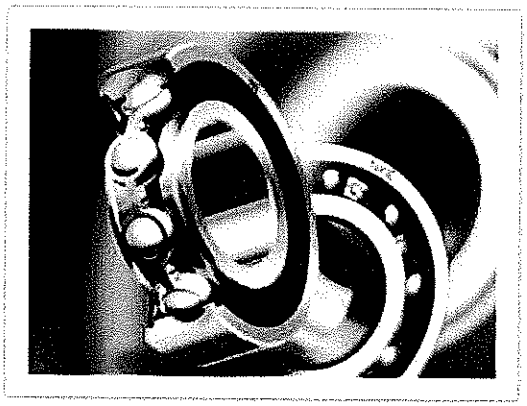
Section – B

04X04 = 16 Marks

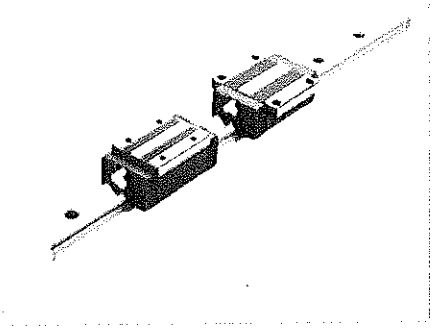
11. Write the name of the following parts.



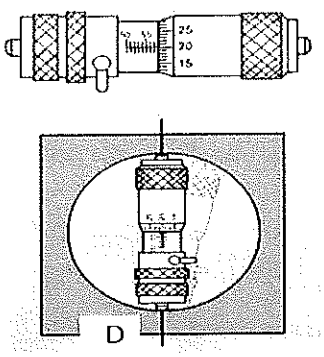
A



B



C



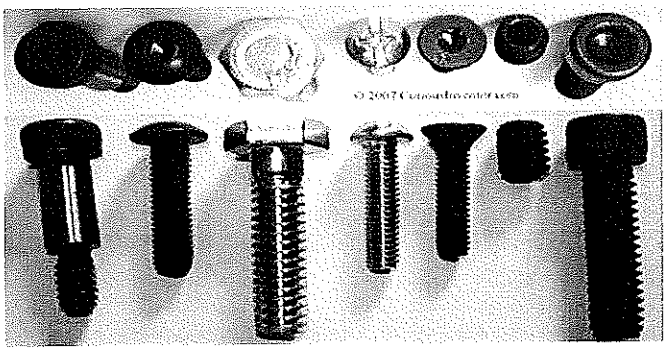
D

12. What is the difference between accuracy and precision?
13. Write down the Advantages and Disadvantages of v-belt over flat belt drive.
14. Which factors should we consider to select measuring tool?

Section – C

04X06 = 24 Marks

15. What is the Importance of Least count? Also calculate the least count of Bevel Protractor.
16. Write down the names of any five from the picture given below.



17. Explain any Three.
    (a) Calibration of Measuring Instruments
    (b) Surface table
    (c) Geometrical Dimensions & Tolerances
    (d) Dial caliper
18. (A) What is Dowell pin? Write any two advantages and disadvantages of deep groove ball bearing.
    (B) What is the use of spring washer? Give the difference between direct and indirect measurement with examples.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET-B

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1101 **Time: 2 Hour**

Course Name: Assembly & Measuring **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. Which measuring instruments can be used to measure internal diameter of 20.015 mm?
   a) Digital Vernier calipers
   b) Micrometer.
   c) Hole test Micrometer
   d) Plug gauge
2. Which one of the example of form gauge?
   a) Feeler gauge
   b) Micrometre
   c) Vernier Depth gauge
   d) None of these
3. Least size available in Slip Gauge block set which you have used:
   a) 1.0005
   b) 1.05
   c) 1.050
   d) 1.005
4. For Which applications plunger dial indicators are not used?
   a) Inspecting surface for flatness.
   b) Aligning Work piece
   c) Inspecting shaft roundness
   d) Measuring boring diameter
5. Set screw is used to.
   a) Prevent the relative motion between two part
   b) Prevent loosening of threads between the nut and screw
   c) A & B Both
   d) None of the above

6. Jam Nut is also called.
   a) lock nut
   b) Castle nut
   c) A & B Both
   d) None of the above
7. "Stem and stylus must be at right angle to the measurement surface." This sentence suit for
   a) Puppet dial test indicator
   b) Plunger Type Test Indicator
   c) Sine Bar
   d) None of the above
8. The joints which can be assembled and dismantled whenever required
   a) Temporary Joint
   b) Rivet joint
   c) A & B Both
   d) None of the above
9. Which one of the following is not a part of a micrometer?
   a) Thimble
   b) spindle
   c) probe
   d) Anvil
10. Material of a measuring tool should be.
    a) Softer than the work piece.
    b) Harder than the work piece.
    c) Same hardness as of work piece
    d) None of the above.

Section – B

04X04 = 16 Marks

11. What is oil seal and write the two function?
12. Write any 4 Safety precautions while using slip gauge.
13. Write the difference between measuring instruments and gauges.
14. Which factors should we consider to select measuring tool?

Section – C

04X06 = 24 Marks

15. Importance of Least count and Calculate the least count of Bevel Protractor.
16. Write the advantage of Timing belt.
17. Explain different types of errors in measurement.
18. (A) Calculate the least count of Vernier caliper which has 50 divisions on secondary scale with write down the formula.
    (B) Write down the different parts of micrometer with their application.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET-A

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1102 **Time: 2 Hour**

Course Name: Handskills **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. Which tool holder is used for clamping tap?
   a) Sleeve
   b) Drill chuck
   c) Tap wrench
   d) Collect chuck
2. Process steps for reaming-
   a) Spot drill-drill-core drill-reaming
   b) Spot drill-drill-tapping-reaming
   c) Spot drill-CSK-drill-core drill-reaming
   d) Spot drill-drill-core drill-CSK-reaming
3. Tapping is a process to make
   a) External thread
   b) Internal thread
   c) Both
   d) None of the above
4. The bed of the machine is made of
   a) Mild steel
   b) Cast iron
   c) High speed steel
   d) None of the above
5. The method of inspecting flatness is known as
   a) Flatness inspecting method
   b) Air gap method
   c) Light gap Method
   d) None of them

6. The size of the relief angle mainly influences-
   a) Cutting force
   b) Friction between tool and work piece
   c) Chip formation and cutting force
   d) None of the above
7. Which of the following is not responsible for the penetration of cutting wedge into the workpiece?
   a) Relief angle
   b) Wedge angle
   c) Workpiece material
   d) Cutting force
8. What will be the rpm where cutting speed 25 m/min and diameter 8 mm?
   a) 500
   b) 650
   c) 800
   d) 1000
9. Which of the following indicates the reducing scale?
   a) 5:1
   b) 3:3
   c) 1:4
   d) None of the above
10. Point angle of a drill bit is
   a) 45^0
   b) 115^0
   c) 118^0
   d) 90^0

Section – B

04X04 = 16 Marks

11. Write the formula for cutting speed. Also define its nomenclature with its units. If cutting speed is given 30 and tool diameter is 16 mm, then calculate RPM.
12. Write the classification of saw blades.
13. What do you understand by cutting edge? Explain with example.
14. Explain the geometry of saw blade.

Section – C

04X06 = 24 Marks

15. Describe the tapping process and drilling process.
16. a) Write the application of sawing.
    b) Calculate the RPM for dia 8H7 reaming. Consider the workpiece material is mild steel and tool material is HSS.
17. Describe the Rules and Techniques should be considered during sawing.
18. Write short notes on following:
    a) Fehlmann Picomax 20 machine b) counter sinking c) tool holders

SET-B

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1102 **Time: 2 Hour**

Course Name: Handskills **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. Which of the following is responsible for the penetration of cutting wedge into the work piece?
   a) Relief angle
   b) Rake angle
   c) Wedge angle
   d) Cutting force
2. Drill bit should be clamped in
   a) Sleeve
   b) Drill chuck
   c) Tap wrench
   d) Collect chuck
3. Process steps for counter boring-
   a) Spot drill-drill-core Drill-Counter boring
   b) Spot Drill-Drill-Counter boring-CSK
   c) Spot drill-CSK-drill-core Drill-Counter boring
   d) Spot drill-drill-core drill-CSK-Counter boring
4. Which of following is used for checking 90o angle
   a) Marking T-rule
   b) Try Square
   c) Divider
   d) None of the above
5. Counter boring can be done without pre drill
   a) True
   b) False
6. Punching is a process of
   a) Making conical depression on to the surface of work piece
   b) Transferring the dimension and contour onto the work piece surface
   c) Both a & b

d) None of them

7. The size of the rake angle mainly influences-
   a) Work piece surface
   b) Friction between tool and work piece
   c) Chip formation and cutting force
   d) None of the above
8. What happens if the size of clearance angle / relief angle becomes very less?
   a) The friction will be more and the surface quality will be bad
   b) Chips will break very easily
   c) Tool will penetrate deeper
   d) None of the above
9. Which of the following indicates the enlarging scale?
   a) 5:1
   b) 3:3
   c) 1:4
   d) None of the above?
10. Point angle of a spot drill is-
   a) 45
   b) 115
   c) 118
   d) 90

Section – B

04X04 = 16 Marks

11. Write the formula for cutting speed. Also define its nomenclature with its units. If rpm is given 500 and tool diameter is 20 mm, then calculate cutting speed.
12. Describe the Rules and Techniques should be considered during filing.
13. Write the different types of files.
14. How far cutting wedge penetrates into the material depends on which factors? Explain.

Section – C

04X06 = 24 Marks

15. What occupational safety should be considered during the work in the workshop (any ten)?
16. a) Write the difference between cut file and milled file.
    b) Calculate the RPM for M8 tapping. Consider the workpiece material is mild steel and tool material is HSS.
17. Derive the expression to calculate the chamfer value for making radius by using file with diagram.
18. Write short notes on following:

a) Scribing b) Punching c) Reaming d) Counter Boring

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET-A

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1103 **Time: 2 Hour**

Course Name: Conventional Milling **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. 1. What is the Normal Clearance angle in Tool?
   a) 8 -10°
   b) 6-8°
   c) 4-6
   d) 5-7°
2. Wedge angle is the angle between _____ and _____.
   a) Tool flank & face
   b) Face & finish surface
   c) Perpendicular line to the point of contact & rake face
   d) None of these
3. What is the range for Vc on Mild Steel Work piece with hss tool ?
   a) 100-400
   b) 50-100
   c) 25-30
   d) 50-75
4. Type 'H' milling cutters are used to cut _____ materials.
   a) Soft & stringy
   b) Hard & tough
   c) Hardened steel
   d) All of the above
5. Which type of wear is caused due to fluctuations in temperature?
   a) Edge fractures
   b) Thermal cracks
   c) Edge build -up
   d) Chips & splinters

6. Which tool holder is used for clamping Morse taper tool?
    a) Collet type tool holder
    b) Reducing bushes
    c) Weldon type tool holder
    d) Arbor type tool holder
7. What is coolant concentration range for milling?
    a) 6-8%
    b) 12-15%
    c) 5-7%
    d) 18-20%
8. What is the another name of down milling?
    a) Climb milling
    b) Conv.milling
    c) Up milling
    d) None of these
9. Which tool holder is use to clamp edge finder?
    a) Weldon type
    b) Collet type
    c) Weldon type
    d) Reducing bush type
10. Which tool is use to make chamfer on workpiece?
    a) Shoulder mill
    b) Face mill
    c) Slot drill
    d) End mill

Section – B

04X04 = 16 Marks

11. Write any 4 uses of Cutting Oil.
12. What is Milling and differentiate between grinding and milling?
13. Write difference between turning and milling.
14. Write the uses of different types of milling tool holders?

Section – C

04X06 = 24 Marks

15. Explain any four type of Milling processes.
16. Describe the Steps to calculate R.P.M for ⌀50 Face mill with Vc= 450 and also calculate its Feed Rate with feed per tooth 0.15.?
17. Explain the following: -
    a) Flank wear
    b) Crator wear.
18. Differentiate up milling and down milling with a suitable diagram.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET-B

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1103 **Time: 2 Hour**

Course Name: Conventional Milling **Max. Marks: 50**

Instructions:

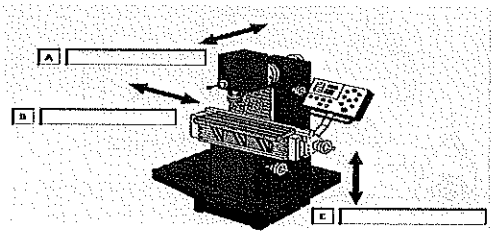
1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. What is another name for Up Milling...?
   a) Conventional Milling
   b) Climb Milling
   c) Down milling
   d) None of the above
2. During rough milling, high cutting forces arise. Here axial and radial angle must be:
   a) Positive
   b) Negative
   c) axial angle positive
   d) radial angle positive
3. Type 'W' milling cutters are used to cut materials:
   a) Soft & stringy
   b) Hard & tough
   c) Brittle and ductile
   d) mild steel
4. Which tool holder is used for tools having no shank?
   a) Collet type tool holder
   b) Reducing bushes
   c) Weldon type tool holder
   d) Arbor type tool holder
5. Which type of wear is caused due to friction between tool and workpiece?
   a) Edge fractures
   b) Thermal cracks
   c) Edge build -up
   d) Flank wear

6. What is the types of Milling Process used for position of the cutting edge in use?
   a) External milling
   b) Internal milling
   c) Face milling
   d) Peripheral Milling
7. Which type of tool holder is used for finishing operations?
   a) Collet type
   b) Reducing buses
   c) Arbor type
   d) Weldon type
8. Wedge angle is the angle which is useful for_____
   a) Tool penetration
   b) Coolant flow
   c) Chip removal
   d) Surface finish
9. What is the name of B Axis in the given figure:
   a) Transverse
   b) Longitudinal
   c) Vertical
   d) Horizontal



10. Clearance angle is the angle between _____ and _____.
    a) Tool flank & face
    b) Face & finish surface
    c) Finish surface & face
    d) None of the above

Section- B

04X04 = 16 Marks

11. Define the following formula Parameters?

$V_f = f_z \times z \times n$

Where V_f =_____

F_z =_____

Z=_____

N=_____

$V_c = \pi \times D \times N / 1000$

Where V_c = _____

D = _____

N= _____

12. Fill in the blanks with appropriate options.

(a) Small

(b) Large

	Classification W	Classification H
Number of Teeth		
Chip Space		
Helix Angle		

13. Match the following

COLUMN (A)	COLUMN (B)
(a) Do Not Wear jewelry or a wrist watch while working	(a) Because chips or cutting fluid could cause eye injuries
(b) use a counter brush or chip brush to clear away chips	(b) In order to avoid lacerations (cut injuries) on your hands
(c) Wear safety glasses during metal removal	(c) Otherwise, you could get caught in the milling spindle
(d) Treat hands and forearms with skin lotion	(d) Otherwise, you could get caught in the milling spindle
(e) Wear tight fitting clothes and a hair net	(e) To prevent skin irritation, throw contact with cutting fluid

14. Explain difference between face mill and shoulder mill.

Section- C

04X06 = 24 Marks

15. Explain the following milling machine parts:
    a) Machine column and base
    b) Knee
    c) Main drive
    d) Feed device
16. Explain the followings:
    a) Thermal cracks
    b) Built up edge
    c) Chip & Splinters
17. Explain different types of Milling machines & their uses.
18. Explain Tool geometry in conv. milling.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET-A

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1104 **Time: 2 Hour**

Course Name: Conventional Turning **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. What is the cross section of feed shaft?
   a) Hexagonal
   b) Pentagonal
   c) Rectangular
   d) Circular
2. Which of the following is not the part of carriage?
   a) Saddle
   b) Lead shaft
   c) Compound slide
   d) Cross slide
3. Why we make undercut for making thread?
   a) Thread tool relaxation & Self-looking.
   b) To clean the face
   c) To reduce the diameter
   d) None of the above
4. What is the use of rake angle in a tool?
   a) Chips removal
   b) Provide space between work piece and tool
   c) To give relief
   d) None of these
5. What is the unit of cutting velocity?
   a) Meter/min
   b) Feed/min
   c) Rotation/min
   d) None of the above

6. What does "D" represent in DCMT designation of indexable inserts?
   a) Wedge angle of 80 deg.
   b) Clearance angle 7 deg.
   c) Wedge angle of 55 deg.
   d) Wedge angle of 35 deg.
7. Which thread can withstand the force in both the direction?
   a) Metric thread
   b) Trapezoidal thread
   c) Butters thread
   d) Round thread
8. Which type of chip has low accidental risk, easy chip disposal
   a) Continuous chips
   b) Tear chips
   c) Shear chips
   d) None of the above
9. When tear chips are formed
   a) Using a large depth of cut, low cutting speed and a large rate of feed
   b) Using a low depth of cut, large cutting speed and a low rate of feed
   c) Using a low depth of cut, large cutting speed and a large rate of feed
   d) None of the above
10. What oxide ceramic consist of-
   a) Titanium nitride
   b) Pure aluminum oxide
   c) Silicon nitride
   d) None of the above

Section – B

04X04 = 16 Marks

11. Write difference between right-hand tool and left-hand tool. (With neat sketch)
12. Define:

    Tool wedge angle
    Clearance angle
    Rake angle
13. Define Upright lathe machine
14. If cutting velocity (Vc) is 30 m/min & workpiece diameter is 7cm. Calculate the rpm for facing of Aluminum workpiece

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Section – C

04X06 = 24 Marks

15. How to classify the indexable insert with the help of an example?
16. What do you understand by Ceramics and explain their types?
17. Calculate thread of M16X2, In the sequence given below?
    a) Thread depth
    b) Major diameter
    c) Minor diameter
    d) chamfer
18. Write down the classification of thread?

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SET B

Registration No.: .....

School of Manufacturing Skills

Session: 2021-22 (Winter Semester)

B. Voc. Program, I Semester,

End-Sem. Examination

Course Code: SMS1104 **Time: 2 Hour**

Course Name: Conventional Turning **Max. Marks: 50**

Instructions:

1. Attempt all questions.
2. Section A contains 10 Questions. Each question carries 1 Mark.
3. Section B contains 04 Questions. Each question carries 4 Marks.
4. Section C contains 04 Questions. Each question carries 6 Marks.

Section – A

10X01 = 10 Marks

1. Which type of thread is used in lead screw?
   a) Metric thread
   b) Round thread
   c) Rectangular thread
   d) Trapezoidal thread
2. Why do we use coolant while machining?
   a) To improve surface finishing
   b) To increase the tool life
   c) To reduce the temperature
   d) All of the above
3. What is the use of refractometer I?
   a) To check the temperature of the coolant
   b) To check the PH level of the coolant
   c) To check the concentration of the coolant
   d) None of these
4. Which of the following is not consider in motion transmitting thread?
   a) Acme thread.
   b) Round thread
   c) Withworth thread
   d) Buttress thread
5. What does "N" represent in SNMG designation of indexable inserts?
   a) Wedge angle of 80 deg.
   b) Clearance angle 0 deg.
   c) Wedge angle of 55 deg.
   d) Wedge angle of 35 deg.

6. What is the unit of RPM?
   a) Meter/min
   b) Feed/min
   c) Rotation/min
   d) None of the above
7. Which thread can withstand the force only in one direction?
   a) Metric thread
   b) Trapezoidal thread
   c) Butters thread
   d) Round thread
8. Which type of chip have high accidental risk?
   a) Continuous chips
   b) Tear chips
   c) Shear chips
   d) None of the above
9. What composite ceramic consist of-?
   a) Titanium nitride
   b) Aluminum-oxide
   c) Silicon nitride
   d) None of the above
10. When continuous chips are formed
    a) Using a large depth of cut, low cutting speed and a large rate of feed
    b) Using a cutting tool with large rack angle and high cutting speed
    c) Using a low depth of cut, large cutting speed and a large rate of feed
    d) None of the above

Section – B

04X04 = 16 Marks

11. If cutting velocity (Vc) is 100 m/min & workpiece diameter is 25mm. Calculate the rpm for facing of Aluminum workpiece
12. Write difference between right-hand tool and left-hand tool? (With neat sketch)
13. Define: lathe tool geometry
14. Define copying lathe machine

Section – C

04X06 = 24 Marks

15. What is the criteria that cutting material should satisfy?
16. Calculate thread of M20X2.5, In the sequence given below?
    a) Thread depth
    b) Major diameter
    c) Minor diameter
    d) chamfer
17. Explain what is tool life and factor which can increase the tool life?
18. Write down the classification of thread?