

Diploma in Mechanical Engg.

(THEORY OF MACHINE)

- 1) What do u mean by kinematic?
- 2) What is machine?
- 3) What is the relationship between number of pairs and number of links?
- 4) *what is degree of freedom?*
- 5) What is undercutting in cam ? write its significance.
- 6) Classify the different types of follower in detail.
- 7) Define kinematic chain?
- 8) What is link?
- 9) What is lower pair?
- 10) what is the pressure angle in cam? explain its significance

Refrigeration And Air Conditioning

- 1) What is the standard rating of refrigerating machine?
- 2) Define Actual COP, Theoretical COP and Relative COP?
- 3) Explain briefly air refrigerator working on reversed Carnot cycle. Derive an expression for its COP
- 4) Write down chemical formulae of following refrigerants R-11, R-12, R-22, R-764, R-717, R170?
- 5) With the help of neat sketch give construction and working of a single stage reciprocating compressor?
- 6) Sketch and explain working of thermostatic expansion valve.
- 7) Explain various types of refrigerating compressor?
- 8) Explain various types of refrigerants?
- 9) Write short note on (any two) i) Compressor ii) condenser iii) evaporator
- 10) Explain vapour absorption system of refrigeration with help of diagram?

CNC machine

- 1) How does the structure of NC/CNC machine tools differ from conventional machine tools?
- 2) Describe with sketch the working and construction of recirculating ball screw used in CNC machine tools?
- 3) Describe the principle of working of an automatic pallet changer and automatic tool changer.
- 4) State advantages and limitations of CNC machine tools.
- 5) Explain clearly the difference between NC and CNC machine.
- 6) Explain the feedback system of NC/CNC machine.
- 7) Explain with neat sketch, axis designation for CNC turning center and CNC vertical milling machine
- 8) Explain linear and circular interpolations used in turning. Draw a neat sketch of circular interpolation
- 9) Which are formats used for manual part programming?
- 10) What are canned cycles? Discuss how a canned cycle is useful in writing a part program?

Workshop Technology

- 1) Explain the terms, Truing and Dressing related to grinding wheel
- 2) Explain briefly the angular and straddle milling.
- 3) Explain electron beam machining process in brief with neat sketch.
- 4) Explain the elements related to grinding wheel; Abrasive, Grade, Structure and Bond.
- 5) Explain principle and applications of electrical discharge machining (EDM).
- 6) Explain the working principle, parts of milling machine with neat sketch.
- 7) Explain the process of mounting of grinding wheels.
- 8) What are the advantages of centre less grinding?
- 9) What is indexing head and how it works? Explain?
- 10) Explain the mechanism of machining in EBM process list its advantages, disadvantages and a

pplications.

ENVIRONMENTAL EDUCATION

Q1- What are the biotic components of an ecosystem?

Q2- List some of the existing non-degradable pollutants in our environments

Q3- Define the term seminar.

Q4- Bring the two key concepts of Brundtland commission 1983 in sustainable development.

Q5- What is meant by evaluation?

Q6- Point the chemical hazards in our environment.

Q7- Write the course content of environmental education to be selected at higher secondary level ?

Q8- Mention where the first chipko movement took place in April 1973.

Q9- State the significance of article 51-A clause (g) regarding environmental conservation.

Q10- Specify the sources of soil pollution in our environment.