2233

October 2024

Time – Three hours
(Maximum Marks: 100)

[N.B.
1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. State the functions of chip breakers.

2. Write short notes on portable grinders.

3. What are the feeds given in shaper?

4. Write the advantages of broaching.

5. Draw the spring collet and name the parts.

6. What is meant by gear hobbing process?

7. Write the limitations of unconventional machining process.

8. Name the types of plasma arc torches.

9. Write the application of coordinate measuring machine.

10. What are the types of slide ways?

PART – B

11. (a) Explain the multi spindle drilling machine with a neat sketch.

(Or)

(b) (i) Explain the working principle of cylindrical grinder with a neat sketch. (10)

(ii) Write about dressing of grinding wheel. (4)

12. (a) Explain the construction and working of crank and slotted link mechanism of shaper with a neat sketch.

(Or)

[Turn over.....

(b) (i) Explain the horizontal continuous broaching machine with a neat sketch. (10)

(ii) List the different operations performed in broaching and explain any one operation with neat sketch. (4)

13. (a) (i) List out the milling operation and explain any three of them with neat sketches. (10)

(ii) Explain the T slot milling cutters with a neat sketch. (4)

(Or)

(b) Explain the following gear finishing process with neat sketches.

(i) Gear grinding process.
(ii) Gear shaving process.

14. (a) Explain ultrasonic machining process with a neat sketch. Also write its advantages, disadvantages and applications.

(Or)

(b) (i) List out the various factors affecting the metal removal rate in EDM process. (4)

(ii) Explain the electron beam machining with a neat sketch. (10)

15. (a) (i) Explain the automatic tool changer with a neat sketch. (6)

(ii) Explain the types of tool magazine with neat sketches. (8)

(Or)

(b) Write the CNC Turning part programme for the given model using G00 and G01 code. (Raw material size Ø 30 x 45 mm)

—————