Turn Over

Each question carries **2** marks.

- 1. Write a note on hybrid circuits.
- 2. Draw the structure of a typical integrated capacitor.
- 3. Which are the impurities incorporated during silicon crystal growth?
- 4. Explain wafer polishing process.
- 5. Name the interstitial dopant used in diffusion.
- 6. List the different type of lithographic process.
- 7. What is a photo resist?
- 8. What are the uses of epitaxy in IC manufacturing?
- 9. Write any two features of epitaxial layer.
- 10. What is meant by lead bonding in bipolar IC fabrication?
- 11. Why MOS circuits are preferred over bipolar circuits in VLSI?
- 12. How an epitaxial resistor is fabricated?

(10×2=20)

Part B

Answer any **six** questions. Each question carries **5** marks.

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QP CODE: 25020455

Time: 3 Hours

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B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

Sixth Semester

B.Sc Electronics and Computer Maintenance Model III CHOICE BASED CORE COURSE - EM6CBT01 - IC TECHNOLOGY

> 2017 Admission Onwards 5F27DCE2

> > Part A

Answer any ten questions.

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Max. Marks: 80

- 13. What are the advantages of Ics over discrete components?
- 14. Briefly explain any one method of thin film processing.
- 15. Explin the production of EGS.
- 16. Briefly explain the physical mechanism of impurities in diffusion.
- 17. Explain in detail about ERFC diffusion.
- 18. Write a short note on thermal oxidation process.
- 19. Briefly explain LPCVD.
- 20. Write a short note on metallization process.
- 21. Explain about the impurity profile of npn transistor.

(6×5=30)

Part C

Answer any **two** questions. Each question carries **15** marks.

- 22. Compare thin film and thick film technology in detail.
- 23. Explain in detail about czochralski crystal growth process with neat diagram.
- 24. Discuss the principle and apparatus for ionimplantation.
- 25. Explain in detail about the various steps in bipolar IC fabrication process with necessary sketches

(2×15=30)