QP CODE: 24020541

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Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, MAY 2024

Second Semester

B.Sc Physics Model III Electronic Equipment Maintenance

Core Course - PH2CRT24 - ANALOGUE INTEGRATED CIRCUITS

2017 ADMISSION ONWARDS

F108B34E

Time: 3 Hours Max. Marks : 60

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Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. What are the application of op-amp?
2. Define input offset voltage.
3. Define unity gain amplifier.
4. Define differentiator.
5. What are the advantages of active filter?
6. Define LPF nd HPF.
7. Define HPF.
8. Explain the frequency response of all pass filter.
9. In which application 555 timer can be used in monostable mode?
10. Why clamp diodes are used in comparator circuit?
11. How to obtain high rate of accuracy in comparator?
12. What are the application of vco?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain closed loop op-amp inverting amplifier cofeguration and derive the gain.
14. Explain openloop differential amplifier confeguration.
15. Draw the circuit diagram of integrator and derive the ouput voltage.
16. With suitable sketch explain wide bandpass filter and draw the frequency response curve.
17. With suitable sketch expalin wide bandreject filter and draw the frequency response curve.
18. Draw the circuit diagram of squarewavegenerator and derive thefrequency of oscillation.
19. Explain the applications of 555 timer.
20. Draw the circuit diagram of astable multivibrator using 555 and derive the frequency of oscillation.
21. Explain the applications of astable and monostable multivibrator.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Determine the voltage gain,differential input resistance and the output resistance for a dual input unbalanced output differential amplifier.
23. With block diagram explain the working of Operational amplifier.
24. Generte a square wave circuit andfrom that circuit construct a triangular wave generator.
25. Construct a voltage controlled oscillator and derive the frequency .mention few applications.

(2×10=20)