S.No. 1871

(For the candidates admitted from 2012 – 2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Third Semester

Electronics and Communication

ELECTRONIC CIRCUITS

Time : Three hours   Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is meant by RMS value?

2. What is a ripple factor?

3. What do you understand by the term "transistor biasing"?

4. Define stability factor.

5. What is collector efficiency in power amplifiers?

6. What is class B power amplifier?

7. What do you understand by feedback in amplifiers?

8. Mention the types of feedback.

9. What is a sinusoidal oscillator? What are its types?

10. What is meant by Barkhausen criterion?

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the working of LC filter with a neat sketch.

Or

(b) Write a note on SMPS.

12. (a) Mention the essentials of transistor biasing circuit.

Or

(b) Describe the operation of negative clamping circuit.

13. (a) Explain the working of MOSFET power amplifier with a circuit.

Or

(b) Explain the operation of direct – coupled amplifier with a suitable sketch.

14. (a) Discuss the basic concepts of feedback.

Or

(b) Explain the current – shunt feedback with a suitable sketch.

15. (a) Describe the working of crystal oscillator with a neat sketch.

Or

(b) Explain the operation of Schmitt trigger.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. With suitable sketches, explain the working full wave bridge rectifier and obtain its efficiency.

17. Explain voltage divider bias method used for transistor biasing with suitable diagrams.

18. Explain the working of push – pull amplifier with a neat circuit diagrams and mention its advantages.

19. Discuss the effect of negative feedback on (a) gain and (b) bandwidth.

20. Explain the working of colpitt's oscillator with a neat diagram and state its advantages and disadvantages.