M 9909

**V Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M/B.B.A.R.T.M./B.B.M./
B.C.A./B.S.W./B.A. Afsal-Ul-Ulama Degree (CCSS-Reg./Supple./Imp.)
Examination, November 2015
OPEN COURSE
5D01PHY (B) : Applied Electronics**

Time: 2 Hours   Max. Weightage : 20

SECTION – A

Answer **all** questions :

1. With the same secondary voltage and filter which has the most ripple ?
   a) Half wave rectifier   b) Bridge rectifier
   c) Full wave rectifier   d) Clamper

2. If the collector resistor is open, the collector voltage is
   a) Low   b) High
   c) Unchanged   d) Infinite

3. In a loaded zener regulator which is the largest current
   a) Series current   b) Zener current
   c) Load current   d) None of these

4. To reduce the distortion of an amplified signal you can increase the
   a) Collector resistance   b) Emitter feedback resistance
   c) Generator resistance   d) Load resistance

5. The transconductance curve is
   a) Linear   b) Non linear
   c) Like the graph of a resistor   d) Like a single drain curve

6. In a differential amplifier, a common mode signal is applied to ....
   - a) The non inverting input
   - b) The inverting input
   - c) Both inputs
   - d) Top of the tail resistor

7. The voltage gain of an Opamp is unity at the
   - a) Cutoff frequency
   - b) Unity gain frequency
   - c) Generator frequency
   - d) Power bandwidth

8. How many NOR gates are required to obtain AND operation
   - a) 2
   - b) 3
   - c) 4
   - d) 1   **(2×1W=2W)**

SECTION – B

Answer **any six** questions :

9. What are the elements of Radiobroadcasting ?

10. Calculate the effective value when three resistances are connected in series.

11. Calculate the effective value when three resistances are connected in parallel.

12. What is a tuned circuit ? Where is it used ?

13. What is a bandpass filter ?

14. What is an ideal diode ?

15. What is an SCR ? Give its application.

16. What is ripple ? How can it be reduced ?

17. What is an op-amp ? Give its uses.

18. What is time constant ? Give the time constant of an LR circuit.   **(6×1W=6W)**

SECTION – C

Answer **any four** questions :

19. Calculate the effective capacitance when capacitors are connected in
    - a) Parallel
    - b) Series.

20. What are active filters ? Explain the working of a Low pass filter.

21. What is a high pass filter ? How is it designed ?

22. Explain the effects of negative feedback in amplifiers ? What is its advantage ?

23. Explain the principle of working of an oscillator.

24. How are NAND gates constructed ? Give the truth table.

25. What are binary numbers ? How is decimal to conversion done ?

26. What is a signal generator ? Mention their uses.   **(4×2W=8W)**

SECTION – D

Answer **any one** question.

27. Using circuit describe the construction and working of a full wave rectifier. What is the effect of an RC filter on the output voltage.

28. Explain the working of a digital to analog converter. Determine the resolution of a 12 bit DAC.   **(1×4W=4W)**