ADAMAS UNIVERSITY PURSUE EXCELLENCE	**ADAMAS UNIVERSITY** **END-SEMESTER EXAMINATION : JANUARY 2021** (Academic Session: 2020 – 21)		
Name of the Program: (Example: B. Sc./BBA/MA/B.Tech.)	B.Tech	**Semester:** (I/III/ V/ VII/IX)	VIII
Paper Title :	Analog and Digital Electronics	**Paper Code:**	EEE42106
Maximum Marks :	40	**Time duration:**	3 hours
Total No of questions:	8	**Total No of Pages:**	2
(Any other information for the student may be mentioned here)	Any missing or misprinted information may be suitable assumed		

Answer all the Groups

Group A

Answer all the questions of the following $5 \times 1 = 5$

1. **a)** Define open loop gain. [CO1]

b) What is meant by radix (or base) of a number system? [CO2]

c) Why hexadecimal code is widely used in digital systems? [CO3]

d) What is meant by LSB and MSB? [CO2]

e) What is flip-fop? [CO4]

GROUP –B

Answer *any three* of the following $3 \times 5 = 15$

2. Convert SR flip flop into D flip flop and also draw excitation table [CO4]

3. A digital system has 4-bit input from 0000 to 1111. Design a logic circuit that produces high output when input is less than 1000. Use K-map technique. [CO4]

4. Prove A+ AB = A+B using Boolean algebra. [CO3]

5. Write short note on laws and axioms of Boolean algebra. [CO2]

GROUP –C

Answer *any two* of the following $2 \times 10 = 20$

6. Explain full subtractor with proper circuit diagram and truth table [CO1]

7. Construct a 16x1 multiplexer with two 8x1 and one 2x1 line multiplexer. [CO3]

8. Simplify: (A'+B+C).(A+B'+C). Draw simplified logic diagram. [CO4]

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