

B.C.A. - I (CBCS Pattern) Sem-I
UBCAT105.1 - Paper-V (Elective-I) : Digital Electronics

P. Pages : 2

Time : Three Hours



GUG/W/22/11747

Max. Marks : 80

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labelled diagrams wherever necessary.
 3. Avoid vague answers and write answers relevant and specific to questions only.

Either:

1. a) Convert the following from Decimal to Binary. 8
- i) $(57)_{10}$ ii) $(90)_{10}$
- b) Explain the Binary – Coded Decimal (BCD) in detail. 8

OR

- c) Explain the Real Number Representation in detail. 8
- d) Explain the following. 8
- i) Underflow ii) Overflow

Either:

2. a) Explain the 9's and 10's complement in detail. 8
- b) Explain the following. 8
- i) NOT ii) EX – NOR

OR

- c) Write a note on Truth Table in detail. 8
- d) Explain the Universal gates in detail. 8

Either:

3. a) Explain the Demorgan's Theorem in detail. 8
- b) Write a short note on K – Map. 8

OR

- c) Explain the following. 8
- i) Half Subtractor. ii) Full Subtractor.
- d) Explain the Demultiplexer in detail. 8

Either:

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| 4. | a) | Write a note Flip – Flops in detail. | 8 |
| | b) | Explain the Construction and Working of RSFF in detail. | 8 |

OR

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|-----------|----|---|----------|
| | c) | Explain the Construction and Working of Asynchronous in detail. | 8 |
| | d) | Explain the Johnson Counter with their Time Diagram in brief. | 8 |
| 5. | | Attempt all the questions. | |
| | a) | Write a short EBCDIC codes in detail. | 4 |
| | b) | Explain the Binary Subtraction using suitable example. | 4 |
| | c) | Write a note on Encoder. | 4 |
| | d) | Write a note on Shift Registers. | 4 |
