

Roll No.

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (CSE/ECE) (2018 Batch) (Sem.-3)

DEVELOPMENT OF SOCIETIES

Subject Code : HSMC-101-18

M.Code : 76439

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions, carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Write briefly :

1. Family
2. Origin of Society
3. Capitalism
4. Barter system
5. Marxism
6. Buddhist Economics
7. Development in British period
8. Models of Governing System
9. Decentralization
10. Models of Social Structures

SECTION-B

11. Elaborate on how clan came into being?
12. How human beings and society are related to each other? Discuss it.
13. Compare different models of governing system.
14. Compare the concept of development in pre-British and post-British period.
15. Write a note on Gandhian concept of development.

SECTION-C

16. Compare different models of social structures and write in brief about their evolution?
17. How the ideas of political system originated and explain with reference to history?
18. Elaborate and critically analyse E.F. Schumacher's idea of development.

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SECTION-A

Write briefly :

1. Society
2. Evolution
3. Birth of capitalism
4. Social structure
5. Oligarchy
6. Marxism
7. Development in Post-British Period
8. Relevance of Jajmani system in Indian history
9. Governing systems
10. Gandhi's idea of development

SECTION-B

11. Distinguish between clan and family.
12. What are the advantages of democracy over monarchy?
13. Write an essay on capitalism.
14. What is meant by Buddhist economics?
15. How does decentralization help in economic development?

SECTION-C

16. Discuss how social development is related to Family system?
17. What do we learn from history about contemporary political systems? Elaborate.
18. Discuss in detail the idea of development in current context.

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B.Tech. (CSE/IT) (2018 Batch) (Sem.-3)

DIGITAL ELECTRONICS

Subject Code : BTES-301-18

M.Code : 76435

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

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3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

Write briefly :

1. Perform the subtraction $1001_2 - 1110_2$ using 1's complement method of subtraction.
2. Convert 38_{16} hexadecimal number to binary.
3. Convert the BCD number 00011000 to decimal number.
4. Write the truth table of 3-input OR gate.
5. Give the functional difference between a NAND gate and a negative OR gate.
6. Construct a truth table for the given Boolean expression $AB+BC$.
7. Give the comparison between synchronous & Asynchronous sequential circuits.
8. Determine the resolution of the output from a DAC that has a 12-bit input.
9. What is the difference between static RAM and dynamic RAM?
10. Draw the logic diagram for SR latch using two NOR gates.

SECTION-B

11. Using the Boolean Algebra, simplify the expression:

$$(A + \overline{A})(AB + ABC)$$

12. Use a Karnaugh map to simplify the function to its minimum sum of product form:

$$X = \overline{A}\overline{B}\overline{C}\overline{D} + \overline{A}\overline{B}C\overline{D} + \overline{A}B\overline{C}\overline{D} + \overline{A}BC\overline{D} + \overline{A}BCD$$

13. Design a Excess-3 to BCD code converter using minimum number of NAND gates.
14. Explain the operation of master-slave J-K flip flop. Give its advantages.
15. Design a 4-bit asynchronous up/down counter and explain its working with the help of timing diagram.

SECTION-C

16. Simplify using K-map

$$f(ABCD) = \Pi M(1,3,5,7,8,9,10,13,15) \text{ and implement using NAND/NOR logic.}$$

17. a) Explain how a 4-bit R/2R register DAC works?
- b) Design and working of a synchronous MOD- 6 counter using JK FF.
18. Write short notes on **any two** :
- a) PLA
- b) Ring Counter
- c) BCD to 7 segment decoder

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SECTION-A

Write briefly :

- 1) What are the universal gates? Justify.
- 2) State De-Morgan's Theorem.
- 3) Write the characteristic equation of 4×1 multiplexer.
- 4) State the differences between combinational and sequential circuits.
- 5) Draw the excitation table of D flip flop.
- 6) Convert 101011 into Decimal system & Octal system.
- 7) Draw the state diagram of 3 bit up counter.
- 8) State the functions of flip flops.
- 9) Define Melay machine with state diagram.
- 10) Compare PLA, PAE and PROM.

SECTION-B

- 11) Design a 5×32 decoder using 3×8 decoder and summarize that how many decoders are required for designing?
- 12) Design a two bit magnitude comparator and draw its logic circuit.
- 13) Elucidate the design procedure of synchronous sequential circuits.
- 14) Perform the following addition by 2's complement :
 - a) 20 to -26
 - b) 25 to -15.
- 15) What are various laws for Boolean logic simplification?

SECTION-C

- 16) Design and implement BCD to gray code converter using PAL.
- 17) a) What are the different logic gates? Give their truth tables.
b) Write a short note on static, bipolar and MOSFET RAM cell.
- 18) Draw the logic circuit, excitation table & truth table of RS Flip-Flop.

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