JALPAIGURI GOVERNMENT ENGINEERING COLLEGE

DEPARTMENT OF ENGINEERING ,2nd INTERNAL EXAMINATION

SUBJECT CODE- BS-CE301,Total Marks- 15

1.Write about four different types of protein structure. (4)

2.Describe the classification of lipids. (6)

3.Describe about the formation of peptide bond with suitable diagram. (3)

4.What is chiral carbon? (1)

5.What is hydrolase? (1)

Digital Electronics (Class Test II/ ESC-301)
Department of Computer Science and Engineering
2024

Full marks: 15 **Time: 45 min**

1) What is race around condition? How can we overcome it? Draw a logic circuit diagram of JK Master-Slave flip flop using NAND Gate only and explain its working principle. 1+1+5=7
2) Convert a JK flip flop into SR flip flop. State the conversion table, conversion logical expression and circuit diagram. (5)
3) Draw a diagram of D Flip flop and show the truth table. (3)

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JALPAIGURI GOVERNMENT ENGINEERING COLLEGE
[A GOVERNMENT AUTONOMOUS COLLEGE]
JGEC/B.TECH/ CSE/HSMC -301/ 2024-25
2024

Full Marks: 15 ECONOMICS FOR ENGINEERS

The figures in the margin indicate full marks.
Candidates are instructed to write the answers in their own words as far as practicable.

1 X 15 =15

ny ***One*** questions

hat is fixed cost and variable cost ?What are the objectives of accountancy ? What problems arise in economic decision making process ? 3+4+4+4
rite steps in economic decision making process ?

rite brief on stock turnover ratio, fixed asset turnover ratio ,operating ratio ,net profit ratio ,quick ratio ? Discuss per unit cost and revenue
timation model with example. 10+5

JALPAIGURI GOVERNMENT ENGINEERING COLLEGE
PCC-CS302, SECOND CLASS TEST, DATA STRUCTURE & ALGORITHMS

Full Marks: 15

[Long Answer Type Question]

Answer any ***three*** questions:

1.Write the quick sort algorithm and derive the worst case time complexity in terms of Big Oh notation. **[3+2]**

2. Convert the following infix expression **Q** into equivalent postfix expression using Stack (Show all the steps)

Q: A + (B * C - (D / E ^ F) * G) * H **[5]**

3. Define BST and AVL search tree. Construct BST and AVL search tree with the following dataset:

121, 189, 69, 26, 54, 41, 100, and 227 **[1+4]**

4. Write down efficient procedures/algorithms to insert a node at first position in circular linked list and also delete the first node from circular linked list. **[5]**

Computer Organization (PCC-CS301)

Date of Examination: 18.12.24 (Internal Exam-2) CSE Dept.

Full Marks: 15 Time: 45 Minutes

Attempt any *three. (Each question carries 5 marks)*

1. Consider a memory system that uses 32 bit address to address at the byte level, plus 128KB cache that uses a 128 Byte line size.
   a) Assume an associative cache. Find the size of tag, number of blocks in main memory, number of lines in cache.
   b) Assume a direct map cache. Determine the parameters tag, line (block) number, byte offset.
2. Explain the role of each field of the following Intel IA-32 instruction encoding system with suitable examples.

Opcode	ModR/M	SIB	Displacement	Immediate

3. Build 256MB RAM using 4MB basic chips as many as required. Use low order memory interleaving. Draw the circuit diagram.
4. A two-way set associative cache has lines of 32 bytes and a total size of 64K Bytes. The 64M Bytes main memory is byte-addressable. Show the format of main memory address.