Continuous Assessment-2 **CSE-211**

LOVELY PROFESSIONAL UNIVERSITY

SET-EVEN.

Instructions:

- **Each question is carries 10 marks.**
- **Attempt the question in your handwritten self and upload the solution on UMS before the date of submission in PDF format.**
- **Please mention your details on the top of each page: Name, Reg. No., Class Roll no., set no.**

Q1:- A Load instruction is stored at location 101 with its address field value equal to 250. The address field 250 has value 550 and at location 550 operand (FULL NAME OF STUDENT) is stored. A processor register R1 contains value 260 which would also act as an Indexed register.Address field 249 contains value 15 and 260 contains value (a+b) Determine Effective Address and operand if possible in each of the following addressing modes .

A- Direct addressing mode

B- Indirect addressing mode

C- Auto-increment addressing mode

D- Auto- decrement addressing mode

E- Register addressing mode

F- Register indirect addressing mode

G- Relative addressing mode

H- Index addressing mode

I- Immediate addressing mode

Q2:-Consider the two 8 bit numbers A= 01000011 B= 10001100

A-Give the decimal equivalent of each number assuming that

(i)Unsigned

(ii)Signed

B-Add the two binary numbers and interpret the sum assuming

that

(i)Unsigned

(ii)Signed

C- Draw diagram of PSW.

D-Determine the values of C,Z,S,V status bits after the addition.

E- Write all Branch instructions possible

Q3:-(A)Write a program to evaluate the arithmetic statement Y=A-B+C/G+H

(i) Using an accumulator type computer with one address instruction(along with microperations).
(ii)Using a stack organized computer with zero-address instructions.

(B)- Differentiate between RISC and CISC

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SET-ODD

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Q1- An 8-bits register R, determine the values of status bits C,S,Z,V after each of the following instructions .Draw diagram of PSW, The initial value of register R in each case is hexadecimal 82. The number below are in hexadecimal .

A- ADD immediate operand D6 to R
B- Exclusive OR R with R
C- Subtract immediate operand 8A from R

Q2:-

(i) A two-word instruction is stored in memory at an address designated by the symbol A. The address field of the instruction (stored at A + 1) is designated by the symbol Y. The operand used during the execution of the instruction is stored at an address symbolized by EA. An index register contains the value X. State how EA is calculated from the other addresses if the addressing mode of the instruction is ——
A- direct, B- indirect, C- indexed, D-Relative, E- Register indirect

(ii)— Convert the following arithmetic expressions into reverse polish notation:
(i) A+B+C
(ii) A*B/C+D.
Show the intermediate steps.

Q3:- Draw detailed flowchart of the instruction cycle. Indicate the conditions in which register-reference / memory-reference and input-output instructions are executed. Also include the interrupt cycle micro-operations in the flowchart.