1.

- (a) addi $x_8, x_5, -5$ This instruction adds -5 to value in sugister x_5 and stores the susult in x_8 .
 - (b) slli $x_5, x_3, 3$ This instruction left shifts the value in sugister x_3 by 3 positions (which is equivalent to multiplying by x_3^3) and stores susult in x_5 .
- (c) add χ_{19} , χ_{19} , χ_{10} . This adds the value in χ_{10} to value in χ_{19} and stores in χ_{19} .
- (d) addi x15, X15, 1

 This adds 1 to value in X15 and stores in X15
- (e) soil xq, x5,2

 This oright shifts by a positions in x5 value (which is equivalent to dividing by 22) and stores in xq.
- (f) addi x12, x10, 24.

 This adds 24 to value in x10 (which is zero) and stores in x12.

(a) Id χ_{13} , $g_{xxx}(\chi_{5})$ addi χ_{13} , χ_{13} , χ_{10} , χ_{10

(b) 1d 221, 8x20(25)

addi 221, 221, 1

3d 221, 8x20(25)

1d ×6, 40(×5) (d) 1d x6, 32(x5) 00101011 (D) 1d 213, 96(25) ville de la andi 76, 26, 020000000000FFFFFFF 5d 76, 96(25)60 bro did de 113d be 26, 32(25) 10/9/100 60 5d X13, 40(25) 11010100 : Britishing 00110100:1664 (e) 1d x6, 16(x5) Dicimal connection = -(2+2+2+2) = -44 59li 27, 26, 32 823ri 26, 26, 32 ·11010100 (d) 091 76, 76, 77 5d 76, 16(25) svittison alti os o ei tid tradifingia team 3.(a) Binary supresentation of ers is 00010111. Since, it is a positive Since, it is a positive number, the 2's complement is the (b) Binasy suppresentation ofer is 00000001. Since, it is a negative number we have to invert the leits and odd 1. and add 1. By inventing we get_1111110). - noissemmes lovisse By adding 1 we get 1111111. (c) Binary representation of 255 is 11111111. Since, its a positive, the 2's complement supresentation is the same as above by adding trailing o's to the left as it is a positive number by which we get 011111111 which 9 bits (whose significant bit shouldbed) Hence, not possible with e bits (d) Binasy supresentation of 128 is 10000000 Since, it is a negative number we have to invert the bits and add 1. By adding 1 we get 10000000

(9 LOUNE) 4(a) 110101000 (88)88 138 bl (b) Most significant nu bit is 1, so its negative. To find D's complement, invest the to bits and add 100 5d 9(3) 40(23) 11010100 : pritresur Add 1: 00101100 (E) 10 X6, 16(X5) SSIN XI, DES Decimal conversion = $-(2^5+2^3+2^2) = -44$ Borni X6, X6, BB (b) 00101011: 001 ×6, ×6, ×7 Most significant bit is 0, so its positive(2010) 20, we can directly convert which is 25+23+2+1=+430 Most significant bit is 1 ; so its negative. To find 2's complement, invest the bits aid add 1. since, it is a regative rundry plopagage : noiserouristellate.

Oud 1: 00000000: 1 bbo Decimal conversion - - (DI)/1141-29 ou pristeemi 48 By adding 1 we get 1111111. 11111111 en 502 la naitotresencher meania (0) Since, its a positive, the 2's complement suppresent ation is the some as above by adding trailing o's to the tig su divides pet rubmun mitiseg o en ti en tjet Ordbuarles tid travifingis searles) stiel p divides 111111110 etid : Atien et pessible voits 000000001 si 891 je no itatrosurgure meonia (p) Since, it is a regative number we have to invest the lots and add 1. 1111110 top ow pritrerwi 48

andonal tobren t brippe hg