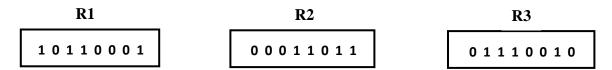
Practice Sheet -2

Q.1 Represent the following numbers in IEEE single precision and double precision format.

- (a) 78.25
- (b) $0.01x2^{-126}$
- (c) 1.0
- (d) -0.3125
- (e) 37.5
- (f) -1313.3125
- (g) -0.2109375

Q.2 Perform the following register transfer micro-operations required to execute an instruction.



- (a) $R3 \leftarrow R1 + \overline{R2} + 1$
- (b) R1←R3-1
- (c) R2←R1∨R2
- (d) R2←R1⊕R3
- (e) R1←cil R1
- (f) R2←shr R2
- (g) R3←ashr R3

Q.3 Perform the following binary multiplications using Booth's algorithm.

- (a) $-11 \times (-4)$
- (b) $(21)\times(-2)$
- (c) $(-60)\times 2$
- (d) 6×9

Q.4 Write the reverse polish notation of the following infix notations.

(a)
$$\frac{A - (B * (^{C}/_{D}))}{(E * F) + (G * H)}$$

(b)
$$\frac{P+Q-A+S}{\frac{C}{B}+\frac{D}{E}+Q*R}$$

$$(c) \frac{A}{B} + \frac{C}{D} + \frac{Q - R + H}{A * B}$$

Q.5 Evaluate the arithmetic expressions given in Q.4 using stack organization. Given A=121, B=3, C=108, D=9, E=2, F=5, G=9, H=6, P=300, Q=10, S=5, R=2