Primeasia University
CSE327
Final Exam

Ans any 5 questions

1.   What is an addressing mode? what type of addressing modes are the following instructions, and what they actually mean- explain your answer.   6

   LDAX DE
   MOV   B, A
   MVI C, #003
   LDA 678H
   LDA #003

 2.   What is a transducer? Suppose the register A has a value of 11001010. What will be the final value of A after performing a RRC then RLC and again RLC.   6

3.   Perform the operation and write down value and state (set/reset) of each flag register bit   6

```
      11001100
  +  10111111
  _____
```

4.   What is the basic difference between general registers and special purpose registers? If a processor has 32 bit bus line then calculate the max number of register in the memory cell for that processor. Show your full calculation
(Note:No partial marking will be provided without giving full calculation)   6

5.   Is it possible to find out the depth of a sunk ship under water using ultrasonic sensor?- explain your answer.

If the total time for sound to travel from the Transmitter to Receiver is 10 seconds and the speed of sound in air is 1125 feet/second. Then the obstacle is situated how many meter away from the sonar sensor? (1 meter=3.2 feet)   6

6. Explain the colored line of the codes for an ultrasonic sensor   6

```
const int trigPin = A0;
const int echoPin = A1;

long duration;
int distance;

void setup()
{
pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
Serial.begin(9600);
}
void loop() {

digitalWrite(trigPin, LOW);
delayMicroseconds(2);

digitalWrite(trigPin, HIGH);
delayMicroseconds(10);

digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);
distance= duration*0.034(10/5);

Serial.print("Distance: ");
Serial.print(distance);
}
```