Time: 3 Hours   Total Marks: 80

N.B: 1. Question No. 1 is Compulsory.
           2. Attempt any Three from the remaining questions.
           3. Assume suitable data wherever necessary.

Q.1   a)   Explain the term IOT.   (05)
      b)   Compare RS232 and EIA485.   (05)
      c)   With neat block diagram explain operation of basic communication system.   (05)
      d)   Explain CAN protocol.   (05)

Q.2   a)   Compare Wi-Fi, GPRS, GPS, Zigbee.   (10)
      b)   Explain TCP/IP protocol in details.   (10)

Q.3   a)   i) Define Modulation. Explain need of amplitude Modulation in communication   (05)
           system.
           ii) The signal power and noise power measured at the input of amplifier are 150   (05)
           μW and 1.5 μW respectively. If the signal power at the output 1.5 W and noise
           power is 40 mW. Calculate the amplifier noise factor and noise figure.
      b)   Explain Foundation fieldbus along with its advantages & disadvantages.   (10)

Q.4   a)   Explain open control network Modbus and proprietary Control network Modbus   (10)
           plus?
      b)   Explain the architecture of HART protocol in detail.   (10)

Q.5   a)   Explain OPC architecture with suitable diagram.   (10)
      b)   Compare PPM, PWM and PPM.   (10)

Q.6   Write short notes on: (20)
      a)   RFID
      b)   Repeaters, bridge and router
      c)   LON device network
      d)   Data Highway Plus

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