

**M.B.SCIENCE COLLEGE  
C.E.SOCIETY, ANAND  
1<sup>st</sup> PERIODIC TEST EXAM  
T.Y.B.Sc. Electronics  
EL-301**

**Date : 17/10/2011**

**Time : 3:00pm to 4:30pm  
Marks: [40]**

- Q1 [a] Explain the input resistance of feedback amplifier [07].
- Q1 [b] Explain the general characteristics of negative feedback . [07]
- OR
- Q1 [b] What is oscillator ? Draw the circuit of Wein bridge oscillator and explain its working in detail. [07]
- Q2 [a] Draw the functional block diagram of IC 723 voltage regulator and explain the function of each block. [07]
- [b] Draw the circuit diagram of Push Pull amplifier and explain its working. [06]
- OR
- [b] Explain the working of Class A large signal amplifier with necessary figures. [06]
- Q3 [a] Draw the Astable multivibrator circuit using 555 timer and explain its operation. Also obtain expression for the period of the output pulse. [07]
- [b] Explain how astable multivibrator can be used as [06]
- (i) Voltage Controlled Oscillator
- (ii) FSK Generator.
- OR
- [b] Explain how monostable multivibrator can be used as [06]
- (i) Missing pulse detector
- (ii) Linear ramp generator

\*\*\*\*\*All The Best \*\*\*\*\*

**M.B.SCIENCE COLLEGE  
C.E.SOCIETY, ANAND  
1<sup>st</sup> PERIODIC TEST EXAM  
T.Y.B.Sc. Electronics  
EL-302**

**Date : 18/10/2011**

**Time : 3:00pm to 4:30pm  
Marks: [40]**

- Q1 [a] Explain the four bit serial in serial out shift registers using positive edge triggered D flip flop with necessary diagrams. [08]
- [b] Explain the Bidirectional Shift register with necessary diagram. [04]
- OR
- [b] Discuss the applications of shift register. [04]
- [c] Draw the logic diagram of four bit parallel in parallel out shift register. [02]
- Q2 [a] Explain the main memory, peripheral memory, program memory and data memory. [04]
- [b] Explain the types of ROMs. [09]
- OR
- [b] Explain the semiconductor RAMs. [09]
- Q3 [a] Explain four stage look ahead carry adder with necessary diagram. [07]
- [b] Explain two's complement addition and subtraction using parallel adder with necessary diagrams. [06]
- OR
- [b] Explain the cascading of two 74LS83 parallel adders with necessary diagram. [06]

\*\*\*\*\*All The Best \*\*\*\*\*

**M.B.SCIENCE COLLEGE  
C.E.SOCIETY, ANAND  
1<sup>st</sup> PERIODIC TEST EXAM  
T.Y.B.Sc. Electronics  
EL-303**

**Date : 19/10/2011**

**Time : 3:00pm to 4:30pm  
Marks: [40]**

- Q1 [a] Explain in detail the architecture of 8085 microprocessor with necessary diagram. [10]
- [b] Explain the flags of 8085 microprocessor. [04]
- OR
- [b] Explain the demultiplexing the bus. [04]
- Q2 [a] Explain data transfer instructions in detail. [06]
- OR
- [a] Classify the instruction according to their word size and explain in detail. [06]
- [b]
- (i) Load the data byte 8EH in register D and F7H in register E. Mask the high order bits D<sub>7</sub>-D<sub>4</sub> from both the data bytes. Exclusive OR the low order bits D<sub>3</sub>-D<sub>0</sub> and display the sum. [04]
- (ii) Write a program to [03]
- 1) Clear the Accumulator
  - 2) Add 47H
  - 3) Subtract 92H
  - 4) Add 64H
  - 5) Display the result after subtracting 92H and after adding 64H.
- Q3 [a] Explain in detail looping , Counting and Indexing with necessary diagram. [07]
- [b] Six bytes of data are stored in memory locations starting at XX50H. Add all the data bytes. Use register B to save any carries generated while adding the data bytes. Display the entire sum at two outputs or store the sum at two consecutive memory locations XX70H and XX71H. [06]
- OR
- [b] Sixteen bytes of data are stored in memory location at XX50H to XX5FH. Transfer the entire block of data to new memory location starting at XX70H. [06]

\*\*\*\*\*All The Best \*\*\*\*\*

**M.B.SCIENCE COLLEGE  
C.E.SOCIETY, ANAND  
1<sup>st</sup> PERIODIC TEST EXAM  
T.Y.B.Sc. Electronics  
EL-304**

**Date : 20/10/2011**

**Time : 3:00pm to 4:30pm  
Marks: [40]**

- Q1 [a] Explain the principle and working of Kelvin double bridge and explain how the effect of contact resistance and resistance leads is eliminated. [08]
- [b] Discuss in detail the Schering bridge. [06]
- OR
- [b] Explain in detail the Hay bridge. [06]
- Q2 [a] Explain the construction of a wire strain gauge and derive the expression for gauge factor. [07]
- [b] Explain the working of [06]
- (i) Inductive transducer
- (ii) Potentiometric transducer
- OR
- [b] Write a short note on Thermister. [06]
- Q3 [a] Discuss in detail the construction and working of the true RMS responding voltmeter. [07]
- [b] Explain in detail the successive approximation voltmeter. [07]
- OR
- [b] What is Q-meter? Derive the expression for the various quantities in the series Q-meter circuit. [07]

\*\*\*\*\* All The Best \*\*\*\*\*

**M.B.SCIENCE COLLEGE  
C.E.SOCIETY, ANAND  
1<sup>st</sup> PERIODIC TEST EXAM  
T.Y.B.Sc. Electronics  
EL-305**

**Date : 21/10/2011**

**Time : 3:00pm to 4:30pm  
Marks: [40]**

- Q1 [a] Why SCR are connected in parallel ? Explain the parallel operation of SCR. [08]  
[b] Discuss the different methods of triggering the series connected SCRs. [05]
- OR
- [b] Discuss the different methods of triggering the parallel connected SCRs. [05]
- Q2 [a] With the help of circuit diagram explain the working of static circuit breakers. [07]  
[b] With the help of circuit diagram explain the working of over voltage protection circuit. [07]
- OR
- [b] With the help of circuit diagram explain the working of the Zero Voltage Switch. [07]
- Q3 Discuss in detail the half controlled bridge circuits with the help of necessary diagrams. [13]

\*\*\*\*\*All The Best \*\*\*\*\*

**M.B.SCIENCE COLLEGE  
C.E.SOCIETY, ANAND  
1<sup>st</sup> PERIODIC TEST EXAM  
T.Y.B.Sc. Electronics  
EL-306**

**Date : 22/10/2011**

**Time : 3:00pm to 4:30pm**

**Marks: [40]**

Q1 [a] What is amplitude modulation ? Derive an expression for amplitude modulated voltage and also draw the waveform of amplitude modulated voltage. [10]

OR

Q1 [a] What is super heterodyne receiver ? Draw the block diagram of superheterodyne receiver and explain the functions of each block. [10]

Q1 [b] What are the basic functions of AM receiver. [03]

Q2 [a] Explain in detail the process of rectangular switching. [08]

Q2 [b] Explain the construction and working of image orthicon. [06]

OR

Q2 [b] Explain the construction and working of Vidicon. [06]

Q3 What is an RF tuner ? Draw the block diagram of RF tuner and explain the working of the different blocks. [13]

\*\*\*\*\* All The Best \*\*\*\*\*