



**JB-3165**  
**Second Year B. Sc. (Sem. IV) Examination**  
**April/May – 2013**  
**Applied Electronics : Paper - III**  
*(Embedded System)*

Time : Hours]

[Total Marks : 50

**Instructions :**

(1)

<p>नीचे दृशावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लभवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : <b>S. Y. B. SC. (SEM. 4)</b></p> <p>Name of the Subject : <b>APPLIED ELECTRONICS : PAPER - 3</b></p> <p>Subject Code No. : <b>3 1 6 5</b> Section No. (1, 2,.....): <b>NIL</b></p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; width: 100%;">Student's Signature</div>
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- (2) Figure on the right indicates full marks.
- (3) All symbols and abbreviations have their usual meaning.
- (4) Non-programmable calculators are allowed.
- (5) Q.1 is compulsory.
- (6) Assume data if necessary.

1 Answer in short : 8

- (a) Differentiate between microprocessor and microcontroller.
- (b) List the flags of 8051 and explain any one of them.
- (c) State the bit definition of PSW register of 8051.
- (d) Explain the following instructions :  
CLPA AND ANL A, @ R<sub>p</sub>

2 (a) How many instruction types are there in 8051 instruction set ? 7

(b) What do you understand by addressing mode in 8051 ? How many addressing modes are there in 8051 microcontroller ? 7

**OR**

2 (a) Write a note on internal organization of 8051 microcontroller ? 7

(b) Explain the bit definition of PCON register of 8051 microcontroller. 7

- 3 (a) Explain any three control registers of 8051 microcontroller in detail. 8
- (b) State the control registers available in 8051 microcontroller. Which control Register is useful in detection and initialization of interrupt in it ? 6

OR

- 3 (a) Write a brief account of 8051 microcontroller timers and counters. 7
- (b) Draw the functional pin diagram of 8051 microcontroller. 7
- 4 Write the following programs : (any two) 14
- (a) Write a program to toggle all the bits of ports P0 and P1 continuously such that P0=FFH, and P0=00 and vice-versa.
- (b) Write a program to flash LEDs 10 times.
- (c) Write a program to send a given message "Jay Hind" on the LCD connected to P0 (every time to latch the data into the LCD, it is necessary to make its enable (En) pin from High to Low).
- (d) Interfacing an LCD to 8051.
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