Faculty of Science

B.Sc (Electronics) III-Year, CBCS-VI Semester Examinations, May/June 2019

PAPER: DIGITAL SYSTEM DESIGN USING VHDL

Time: 3 Hours　　　　　　　　　　　　　　　　　　　　　　Max Marks: 60

Section-A

I. Answer any Three of the following questions.　　　　　　　(3x5=15 Marks)

1. Write a short note on attributes.

2. Write about domains and levels of modeling.

3. Define i) Arrays　ii) Records

4. What is overloading of Function?

5. Write about predefined package standard.

6. What is parameterising behaviour?

Section-B

II. Answer all of the following questions.　　　　　　　　　　(3x15=45 Marks)

7. (a) Give the classification of data types in VHDL. Explain scalar data types with examples.

(OR)

(b) Explain the following with suitable examples:
   i) case statements　　ii) if statements
   iii) loop statements

8. (a) Explain different styles of modeling in VHDL. Discuss the salient features.

(OR)

(b) Explain different types of procedures with examples.

9. (a) Explain about package declarations and package bodies in detail.

(OR)

(b) Explain in detail about resolved signals and ports.

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Section-A

I. Answer any TWO of the following questions.   (3x5=15 Marks)

1. How Fourier transform is useful in digital communication?
2. State sampling theorem.
3. List different types of modulation.
4. Write briefly about A/D and D/A converters.
5. Distinguish Hamming codes and Cyclic codes.
6. Write about application of digital coding for facsimile.

Section-B

II. Answer the following questions.   (3x15=45 Marks)

7. (a) Explain in detail complex Fourier spectrum and Fourier transform analysis.

(OR)

(b) Explain about processing random signals and how to avoid noise.

8. (a) Explain about Quantisation in detail.

(OR)

(b) Explain Delta modulation in detail.

9. (a) Discuss about various coding techniques used in digital communication.

(OR)

(b) Explain in detail how digital communication is achieved in cellular phones.

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Faculty of Science

B.Sc (Electronics) III-Year, CBCS-VI Semester Examinations, May/June 2019

PAPER: 8051 MICROCONTROLLER AND APPLICATIONS

Time: 3 Hours   Max Marks: 60

Section-A

I. Answer any Three of the following questions.   (3x5=15 Marks)

1. Describe in brief, Stack Pointer and PSW Register of 8051 Microcontroller.

2. Give the alternate functions of port 3 pins of 8051 Microcontroller.

3. Explain Jump and CALL instructions of 8051 Microcontroller.

4. Explain the following instruction: (i) MOVC A, @A+DPTR (ii) DJNZ R2, Back

5. Explain Subroutines of 8051 Microcontroller.

6. Explain TMOD register and TCON register.

Section-B

II. Answer all of the following questions.   (3x15=45 Marks)

7. (a) Explain the architecture of Microcontroller 8051 with block diagram.

(OR)

(b) Explain the memory organization and external memory interfacing of 8051.

8. (a) Explain data transfer group, arithmetic and logical instruction with two examples

(OR)

(b) Define Addressing modes and explain different addressing modes of Microcontroller.

9. (a) Write an ALP to arrange a given set of numbers in descending order.

(OR)

(b) Discuss the temperature measurement - Interfacing Application of 8051 Microcontroller.

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Faculty of Science

B.Sc (Statistics) III-Year, CBCS-VI Semester Examinations, May/June 2019

PAPER: DESIGN OF EXPERIMENTS, VITAL STATISTICS, OFFICIAL STATISTICS AND BUSINESS FORECASTING

Time: 3 hours   Max Marks: 60

Section-A

I. Answer any Three of the following questions.   (3x5=15 Marks)

1. Define ANOVA and what are the basic assumptions.

2. Give Layout of CRD with 3 treatments A repeated 4 times, B repeated 3 times C repeated 2 times.

3. What are the steps in Business Forecasting.

4. Explain the efficiency of LSD over CRD and RBD.

5. Explain different types of crude death rates.

6. Explain uses of life tables.

Section-B

II. Answer all of the following questions.   (3x15=45 Marks)

7. (a) Explain the ANOVA for two-way classification with one observation per cell.

(OR)

(b) Explain the principles of experimental design in detail.

8. (a) When does the LSD exists and explain its analysis in detail.

(OR)

(b) Explain the concept of Forecasting in business and what are the methods of Forecasting.

9. (a) What are the methods to measure a population growth, explain in detail.

(OR)

(b) Stating the assumptions explain construction of abridged life tables.

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