

**1195****Code : 15EC41T***Register  
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**IV Semester Diploma Examination, Nov./Dec. 2017****PROFESSIONAL ETHICS AND INDIAN  
CONSTITUTION****Time : 3 Hours |****| Max. Marks : 100**

**Note :** (i) Answer any Six from **Part-A**.  
(ii) Answer any Seven from **Part-B**.

**PART-A****6 × 5 = 30**

1. Define professional ethics and list the objectives of 'professional ethics'. **5**
2. List the benefits of empathy. **5**
3. List the skills required to handle moral problems/issues in engineering ethics. **5**
4. Name the factors that influence the perception of risk. **5**
5. Define 'computer ethics' ? List the issues in computer ethics. **5**
6. Explain briefly the 'copyright'. **5**
7. State the powers and functions of the Chief Minister. **5**
8. Write note on Protection Of Children from Sexual Offences Act, (POCSO) 2012. **5**
9. Explain salient features of Indian Constitution. **5**

## PART-B

7 × 10 = 70

10. Explain the following terms : 10
- (a) Honesty
  - (b) Self-confidence
11. Explain what should one do or not to do live peacefully. 10
12. Explain the characteristics of profession as distinct from non-professional occupation. 10
13. Explain the situations leading to moral dilemma and also the steps to solve the same. 10
14. Explain briefly : 10
- (a) Institutional authority
  - (b) Expert authority
15. Discuss e-waste disposal and the industrial waste disposal creating disasters on environment. 10
16. List the features of human rights. 10
17. Explain the fundamental rights of every citizen. 10
18. (a) Explain the structure of judiciary. 5
- (b) Explain the functions of Supreme Court. 5
19. (a) Explain the functions of State Legislature. 5
- (b) List the power and functions of Governor. 5
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**IV Semester Diploma Examination, Nov./Dec. 2017****MICROCONTROLLERS AND APPLICATIONS****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any **six** questions from **Part-A**.  
(ii) Answer any **seven** questions from **Part-B**.

**PART-A**

1. Compare the features of RISC & CISC processors. 5
2. List, with syntax and function, any five instructions from both arithmetic and bit addressable instructions groups. 5
3. Write an 8051 assembly language program to count number of binary ones in a byte of internal data memory. 5
4. Tabulate basic data types, their size and range of values supported in embedded C. 5
5. Differentiate between interrupt and polling methods. 5
6. State the roles of TMOD, TCON, SCON, SBUF in 8051 serial programming. 5
7. Illustrate the generation of delay using timer. 5
8. Show the interfacing of single-digit seven-segment display with, 8051 and write appropriate code to display 6 in it. 5
9. Sketch the schematic for interfacing DC motor to 8051. 5

**1 of 2****[Turn over**

**PART-B**

10. (a) Sketch the structure of PSW and write functions of various flags. **5**  
(b) Explain the organization of internal RAM memory in 8051. **5**
11. (a) List at least five architectural features of 8051. **5**  
(b) Explain the function of the following pins : **5**  
(i) ALE  
(ii)  $\overline{\text{PSEN}}$   
(iii)  $\overline{\text{TO}}$   
(iv)  $\overline{\text{INT1}}$   
(v) TXD
12. Explain the different addressing modes in 8051 with examples. **10**
13. (a) Write the syntax and function of the following instructions : **5**  
(i) SWAP A  
(ii) DJNZ, R<sub>i</sub>, addr  
(iii) ANL A, # data  
(iv) DEC R<sub>j</sub>  
(v) DA A  
(b) Write an ALD to transfer a block of data from one portion of internal RAM to another. **5**
14. (a) Write an embedded C program to convert unpacked BCD digits to ASCII code. **5**  
(b) Write an 8051 C program to read P<sub>1,2</sub> and send it to P<sub>2,3</sub> after inverting it. **5**
15. (a) Write an 8051 C program to toggle all the bits of P<sub>0</sub> for every 500 ms. **5**  
(b) Mention different logical operators available in 8051 C. **5**
16. Show interfacing of LED and push-button to 8051 and write the program to toggle LED upon every pressing of push-button. **10**
17. (a) Compare the interrupt method and polling method of servicing devices. **5**  
(b) List the interrupts available in 8051 and explain. **5**
18. Write an ALD and 8051 C program to generate a square wave of 10 kHz at P<sub>1,2</sub>. Use timer-1 in mod-2 and crystal frequency of 11.0592 MHz. **10**
19. Write the schematic, algorithm and program to interface a DAC to 8051 to generate a triangular wave form. **10**

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**IV Semester Diploma Examination, Nov./Dec. 2017****DIGITAL COMMUNICATION****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any six questions from **Part-A**. ( $5 \times 6 = 30$  marks)  
(ii) Answer any seven full questions from **Part-B**. ( $7 \times 10 = 70$  marks)

**PART-A**

1. Define information capacity and state Shannon's theorem. **5**
2. List merits and demerits and applications of bipolar signaling. **5**
3. Write a brief note on companding process. **5**
4. What is digital modulation ? Name the types of digital modulation techniques. **5**
5. What is the significance of inter-symbol interference. **5**
6. What is multiple access methods ? Name the types. **5**
7. Write a note on block code. **5**
8. List the applications of optical fiber. **5**
9. Write a brief note on splices. **5**

**PART-B**

- |     |     |   |   |
|-----|-----|---|---|
| 10. | (a) | Compare analog and digital communication.   | 5 |
|     | (b) | Mention the advantages and disadvantages of PWM.  | 5 |
| 11. | (a) | Describe the generation of PPM.   | 5 |
|     | (b) | Given a channel with an intended capacity of 30 mbps. The bandwidth of channel is 5 MHz. What is signal to noise ratio required in order to achieve this capacity ? | 5 |
| 12. | (a) | Describe briefly the adaptive delta modulation transmitter with the help of functional block diagram.   | 5 |
|     | (b) | Illustrate the NRZ unipolar signaling format with an example.   | 5 |
| 13. | (a) | Describe briefly BFSK transmitter.  | 5 |
|     | (b) | Mention the applications of QPSK.   | 5 |
| 14. | (a) | Compare the QPSK and BFSK digital modulation techniques.  | 5 |
|     | (b) | Describe briefly MSK transmitter.   | 5 |
| 15. | (a) | Describe the working of four channel TDM/PAM system.  | 5 |
|     | (b) | Write short note on CDMA.   | 5 |
| 16. | (a) | Explain the concept of FDM technique.   | 5 |
|     | (b) | Describe briefly about LRC coding method.   | 5 |
| 17. | (a) | Describe briefly about forward error correction.  | 5 |
|     | (b) | Explain ARQ error control scheme.   | 5 |
| 18. | (a) | Describe briefly about principle operation of semiconductor LASER.  | 5 |
|     | (b) | Describe numerical aperture and angle of acceptance.  | 5 |
| 19. | (a) | Write the concept of WDM.   | 6 |
|     | (b) | Write the applications of optical fiber.  | 4 |
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**IV Semester Diploma Examination, Nov./Dec. 2017****DATA COMMUNICATION AND NETWORKING****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any **six** questions from **Part-A**. ( $5 \times 6 = 30$  marks)  
(ii) Answer any **seven** full questions from **Part-B**. ( $7 \times 10 = 70$  marks)

**PART-A**

1. Compare LAN, Wan and MAN. 5
2. Differentiate between Ring and Bus topology. 5
3. Explain connection oriented and connectionless protocol. 5
4. Write a note on error control and flow control. 5
5. Why FDDI is called a self healing type of network ? Justify. 5
6. Write any five (5) differences between TCP and UDP. 5
7. Write short note on ports and sockets. 5
8. Explain the working of ROUTER. 5
9. Write the different modes of classification of MODEM. 5



**PART-B**

- |     |     |  |    |
|-----|-----|--|----|
| 10. | (a) | Explain the components of Data Communication System.                         | 5  |
|     | (b) | Explain circuit switching.   | 5  |
| 11. |     | Explain different layers in OSI model, with any two functions in each layer. | 10 |
| 12. |     | Describe the working of CSMA/CD with flowchart.                              | 10 |
| 13. | (a) | Explain the working of token ring network.                                   | 5  |
|     | (b) | Describe the Ethernet Frame Format.  | 5  |
| 14. | (a) | Explain the factures WLAN.   | 5  |
|     | (b) | Differentiate ARP & RARP.  | 5  |
| 15. | (a) | Describe various classes of IP addresses.                                    | 5  |
|     | (b) | Write the IP datagram format.  | 5  |
| 16. | (a) | Describe the various fields is TCP format.                                   | 5  |
|     | (b) | Explain the purpose of Dotted decimal notation of IP address.                | 5  |
| 17. | (a) | Briefly explain the working of frame relay.                                  | 5  |
|     | (b) | Write short note on F.T.P..  | 5  |
| 18. | (a) | Describe the interaction between two e-mail protocols SMTP and PoP.          | 6  |
|     | (b) | Write a note on Domain Name System.  | 4  |
| 19. | (a) | Explain different threats to the computer.                                   | 6  |
|     | (b) | List the differences between SLIP and PPP with definition.                   | 4  |
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**1112****Code : 15KA4NT**Register  
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**IV Semester Diploma Examination, Nov./Dec. 2017****KANNADA KALI – 2 (Non – Kannadigas)****4 ನೇ ಸೆಮಿಸ್ಟರ್, ಕನ್ನಡ ಕಲಿ – 2 (ಕನ್ನಡೇತರರಿಗೆ ಕನ್ನಡ ಪರಿಚಯ)**

ಸಮಯ : 02 ಗಂಟೆಗಳು

ಅಂಕಗಳು : 50

ಸೂಚನೆಗಳು :

- (1) ಉತ್ತರಗಳು ನೇರ ಮತ್ತು ಸ್ಪಷ್ಟವಾಗಿರಲಿ.
- (2) ಪ್ರಶ್ನೆ ಮತ್ತು ಉಪ ಪ್ರಶ್ನೆ ಸಂಖ್ಯೆಗಳನ್ನು ಸರಿಯಾಗಿ ಬರೆಯಿರಿ.
- (3) Answer the given questions in proper grammatical manner.

- I. (a) Fill in the blanks using the correct past tense form of the verbs given in the bracket : 3 × 1 = 3

- (1) ಜಯ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಚೆನ್ನಾಗಿ \_\_\_\_\_ (ಬರೆ)
- (2) ಅವರು ಆಟದಲ್ಲಿ \_\_\_\_\_ (ಸೋಲು)
- (3) ನಾವು ನಿನ್ನೆ ಬೆಂಗಳೂರಿನಲ್ಲಿ \_\_\_\_\_ (ಇರು)

- (b) Fill in the blanks using the correct verbal participle forms of the verbs given in the bracket : 2 × 1 = 2

- (1) ಅವರು ಕನ್ನಡ \_\_\_\_\_ ಚೆನ್ನಾಗಿ ಮಾತನಾಡುತ್ತಾರೆ. (ಕಲಿ)
- (2) ಅವಳು ಆ ವಸ್ತ್ರಕ \_\_\_\_\_ ಅರ್ಥ ಮಾಡಿಕೊಂಡಳು. (ಓದು)

Give the negative forms of the following sentences (any five) :

1 × 5 = 5

- (1) ನೀವು ಪುಸ್ತಕ ಕೊಡಿ.
- (2) ನನಗೆ ಕನ್ನಡ ಸಿನಿಮಾ ತುಂಬಾ ಇಷ್ಟ.
- (3) ಅವರಿಗೆ ಫೋನ್ ಬಂದಿದೆ.
- (4) ಅವರು ಚಾಮುಂಡಿ ಬೆಟ್ಟಕ್ಕೆ ಹೋಗಿದ್ದಾರೆ.
- (5) ಅವರು ಕರ್ನಾಟಕ ಪ್ರವಾಸ ಹೋಗಿದ್ದರು.
- (6) ನಾನು ಒಂದು ವರ್ಷದ ಹಿಂದೆ ಬಿಜಾಪುರ ನೋಡಿದ್ದೆ.
- (7) ರವಿ ಮನೆಯಲ್ಲಿ ಮಲಗಿರ್ತಾನೆ.

I. Translate into Kannada : (any five)

2 × 5 = 10

- (1) Vijay is a good teacher than Shekar.
- (2) The Prime Minister comes to Bangalore tomorrow.
- (3) She narrated a story.
- (4) Take three spoons of medicine.
- (5) I bought two shirts in Bangalore.
- (6) We played cricket till Six 'O' clock.
- (7) If I get good marks I am thinking of joining M.D.
- (8) Please don't talk to me.

7. Vocabulary :

(A) Write English equivalents of Kannada words : (any five)

1 × 5 = 5

- |          |           |           |            |
|----------|-----------|-----------|------------|
| (1) ಆಗಸ  | (2) ಪತ್ರ  | (3) ರೈತ   | (4) ಅನುಭವ  |
| (5) ಮರಳು | (6) ಮತ್ತೆ | (7) ನೆನಪು | (8) ನಿಘಂಟು |

(B) Write Kannada equivalents of the English words : (any five)

1 × 5 = 5

- |            |          |            |              |
|------------|----------|------------|--------------|
| (1) Health | (2) Fool | (3) Simple | (4) Tour     |
| (5) Fear   | (6) Tall | (7) Wealth | (8) Mistakes |

## V. Conversation :

5

ಈ ಕೆಳಗಿನ ಅಪೂರ್ಣ ಸಂಭಾಷಣೆಯನ್ನು ಅವರಣದಲ್ಲಿ (bracket) ನೀಡಿರುವ ಪದಗಳನ್ನು ಅರ್ಥಮಾಡಿಕೊಂಡು ಪೂರ್ತಿ ಮಾಡಿ.

ರಾಜು : ನಿನಗೆ ನಿನ್ನೆ ಮೋಹನ್ ಸಿಕ್ಕನಾ ?

ರಾಮು : \_\_\_\_\_ (negative) ನಿನಗೆ ಸಿಕ್ಕನಾ ?

ರಾಜು : \_\_\_\_\_ (positive) ಹೌದು, ನಿಮ್ಮನ್ನು ನೋಡುವುದಕ್ಕೆ ಹೋಗುತ್ತೀನಿ ಅಂತ ಹೇಳಿದ

ರಾಮು : \_\_\_\_\_ (Enquiring about meeting him)

ರಾಜು : ಅವನು ಕೆಲಸ ಬಿಟ್ಟನಂತೆ

ರಾಮು : \_\_\_\_\_ (Questioning)

ರಾಜು : \_\_\_\_\_ (Answer)

## VI. Transform the following sentences as per direction : (any five)

1 × 5 = 5

- (1) ಅವರು ಬರೆದಿರುವ ಕಥೆ ಚೆನ್ನಾಗಿದೆ (into past perfect)
- (2) ಬೇಲೂರು ದೇವಸ್ಥಾನವನ್ನು ಕಟ್ಟಿಸಿದ ರಾಜ ವಿಷ್ಣುವರ್ಧನ (into present perfect)
- (3) ಮಕ್ಕಳು ರಸ್ತೆಯಲ್ಲಿ ಆಟ ಆಡುತ್ತಾ (into present continues) ಇದ್ದವು
- (4) ತರಕಾರಿ ಕಡಿಮೆ ಬೆಲೆಗೆ ಸಿಗುತ್ತಾ ಇದೆ (into past continues)
- (5) ಅವನು ದಿನಾ ಇಲ್ಲಿಗೆ ಬರ್ತಾನೆ (into habitual)
- (6) ಇಲ್ಲಿ ಬಸ್ಸುಗಳು ತುಂಬಾ ಓಡುತ್ತಾ (into habitual) ಇವೆ
- (7) ರೋಗಿ ಔಷಧಿ ಕುಡಿದ (into non-past)

VII. Write the Kannada alphabet in the traditional order :

05

OR

ಹಳೆಬೀಡಿನ ಹಿಂದಿನ ಹೆಸರೇನು ? ಹಳೆಬೀಡು ಬೇಲೂರಿನಿಂದ ಎಷ್ಟು ದೂರದಲ್ಲಿದೆ ಮತ್ತು ಇಲ್ಲಿರುವ ದೇವಸ್ಥಾನಗಳ ಹೆಸರುಗಳೇನು ? ಅವುಗಳನ್ನು ಕಟ್ಟಿಸಿದವರು ಯಾರು ?

VIII. (A) Combine the following : (any one)

1 × 1 = 1

(1) ಕಾಯಿ + ಇಂದ =

(2) ಸ್ + ಜೌ =

(B) Combine the following sentence using verbal participle form : (any one) 1 × 1 = 1

(1) ಮಂತ್ರಿಗಳು ಕಾಲೇಜಿಗೆ ಬಂದರು

ಮಂತ್ರಿಗಳು ಭಾಷಣ ಮಾಡಿದರು

(2) ನಾನು ಕೆಲಸ ಮಾಡ್ತಾ ಇದ್ದೆ

ನಾನು ಎಂ.ಎ. ಓದಿದೆ

(C) Frame meaningful small sentences with using words given below : (any three)

1 × 3 = 3

(1) ಶಾಲೆ (2) ಮರ (3) ಪುಸ್ತಕ (4) ಹಣ್ಣು

(5) ಮನೆ (6) ಊರು (7) ಶಿಕ್ಷಕರು

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**IV Semester Diploma Examination, Nov./Dec. 2017****4 ನೇ ಸೆಮೆಸ್ಟರ್, ತಾಂತ್ರಿಕ ಕನ್ನಡ - 2 (ಕನ್ನಡ ಬಲ್ಲ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ)****ಸಮಯ : 02 ಗಂಟೆಗಳು****ಅಂಕಗಳು : 50**I. ಈ ಕೆಳಗಿನ ಯಾವುದಾದರೂ ಐದು ಪ್ರಶ್ನೆಗಳಿಗೆ ಒಂದೆರಡು ಪೂರ್ಣ ವಾಕ್ಯಗಳಲ್ಲಿ ಉತ್ತರಿಸಿ. 1 × 5 = 5

- (1) 'ನನ್ನ ಹಣತೆ' ಕವನದ ಕವಿ ಯಾರು ?
- (2) ಅರಿಸ್ಸಾಟಲ್ ನ ಸೋದರ ಮೊಮ್ಮಗನ ಹೆಸರೇನು ?
- (3) 'ಬೆಡ್ಡಾ' - ಎಂದರೇನು ?
- (4) ಜಿ.ಆರ್. ವಿಶ್ವನಾಥ್ ಯಾವ ಕ್ರೀಡೆಯಲ್ಲಿ ಪ್ರಸಿದ್ಧರಾಗಿದ್ದರು ?
- (5) 'ವಿಶ್ವವಿಖ್ಯಾತ ತಂತ್ರಜ್ಞ' ಎಂಬ ವಿಶೇಷ ದೊಂದಿಗೆ ಗುರುತಿಸಿಕೊಂಡಿರುವವರು ಯಾರು ?
- (6) 'ಅಡಕ' ಎಂದರೇನು ?
- (7) ಪತ್ರ ವ್ಯವಹಾರ ಎಂದರೇನು ?

II. ಈ ಕೆಳಗಿನ ಯಾವುದಾದರೂ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಸಂಕ್ಷಿಪ್ತವಾಗಿ ಉತ್ತರಿಸಿರಿ. 5 × 3 = 15

- (1) ಹಣತೆ - 'ಜ್ಞಾನ - ಅಜ್ಞಾನ' ಗಳ ಕುರಿತು ವಿಮರ್ಶೆ ಮಾಡಿ.
- (2) ಕಾಡಿನಲ್ಲಿ ಜಿಗಣೆಗಳ ಕಾಟದ ಪರಿಣಾಮಗಳೇನು ? ವಿವರಿಸಿರಿ.
- (3) ಕರ್ನಾಟಕದ ಅಭಿವೃದ್ಧಿಗೆ ವಿಶ್ವೇಶ್ವರಯ್ಯನವರು ಮಾಡಿದ ಮುಖ್ಯ ಕೆಲಸಗಳು ಯಾವುವು ?
- (4) ಜಿ.ಆರ್. ವಿಶ್ವನಾಥ್ ಅವರ ಬ್ಯಾಟಿಂಗ್ ವೈಖರಿಯನ್ನು ಲೇಖಕರು ಹೇಗೆ ವಿವರಿಸಿದ್ದಾರೆ ?
- (5) ಮಾಹಿತಿ ತಂತ್ರಜ್ಞಾನವು ಉದ್ಯೋಗ ಕ್ಷೇತ್ರದಲ್ಲಿ ಬೀರಿರುವ ಪ್ರಭಾವವೇನು ?
- (6) ಔಪಚಾರಿಕ ಅಭಿವ್ಯಕ್ತಿ ಹಾಗೂ ಅನೌಪಚಾರಿಕ ಅಭಿವ್ಯಕ್ತಿಗಳ ನಡುವಿನ ವ್ಯತ್ಯಾಸಗಳನ್ನು ತಿಳಿಸಿ.

III. ಈ ಕೆಳಗಿನ ಯಾವುದಾದರೂ ಮೂರು ಪ್ರಶ್ನೆಗಳಿಗೆ ವಿವರಣಾತ್ಮಕವಾಗಿ ಉತ್ತರ ಬರೆಯಿರಿ.  $10 \times 3 = 30$

- (1) 'ಕಳವಳವ ನೀಗಿಬಿಡು' - ಮಂಕುತಿಮ್ಮನ ಕಗ್ಗ ಪದ್ಯದಲ್ಲಿ ಕವಿ ಮನಸ್ಸಿನ ಯಾವ ಸ್ಥಿತಿಯನ್ನು ಕುರಿತು ಹೇಳಿದ್ದಾರೆ, ತಿಳಿಸಿ.
- (2) ಅಲೆಕ್ಸಾಂಡರನು ಅರಿಸ್ಟಾಟಲ್ ನಿಗೆ ಬರೆದ ಪತ್ರದ ಸಾರಾಂಶವೇನು ?

#### ಅಥವಾ

ಮದ್ಯಪಾನ ಮತ್ತು ಅಧಿಕಾರದ ಅಮಲು ಮನುಷ್ಯನ ಮೇಲೆ ಬೀರುವ ಪರಿಣಾಮಗಳು ಕುರಿತು ನಿಮ್ಮ ಅಭಿಪ್ರಾಯವನ್ನು ನಿರೂಪಿಸಿ.

- (3) ಅಂಕವಟ್ಟಿಯಲ್ಲಿ ತಪ್ಪಾಗಿರುವ ಹೆಸರನ್ನು ಸರಿಪಡಿಸಿಕೊಡುವಂತೆ ಕೋರಿ ನಿಮ್ಮ ಕಾಲೇಜಿನ ಪ್ರಾಂಶುಪಾಲರಿಗೆ ಪತ್ರ ಬರೆಯಿರಿ.
- (4) ಅಂತರಜಾಲದ ವಿವಿಧ ಉಪಯೋಗಗಳನ್ನು ವಿವರಿಸಿ.
- (5) ಈ ಕೆಳಗಿನ ವಿಷಯವನ್ನು ಒಂದು ಸೂಕ್ತ ಶೀರ್ಷಿಕೆ ಸಹಿತ 30 ಪದಗಳ ಮಿತಿಯಲ್ಲಿ ಸಂಕ್ಷೇಪಗೊಳಿಸಿ.

ಶಿವಪುರ ಎಂಬ ಒಂದು ಊರಿನಲ್ಲಿ ಮೂರು ಜನ ಅಣ್ಣ ತಮ್ಮಂದಿರು ವಾಸಿಸುತ್ತಿದ್ದರು. ಮೊದಲನೆಯವನು - ಸರದಾರ ಸೋಮಣ್ಣ, ಎರಡನೆಯವನು - ಸಾಹುಕಾರ ಕಾಮಣ್ಣ, ಮೂರನೆಯವನು - ಬೋಳೇಶಂಕರ. ಈ ಮೂರು ಜನರಲ್ಲಿ ಬೋಳೇಶಂಕರ ತುಂಬಾ ಒಳ್ಳೆಯ ಮನುಷ್ಯ.

ಇಬ್ಬರು ಅಣ್ಣಂದಿರು ಆಸ್ತಿ ಭಾಗ ಮಾಡಿಕೊಂಡು ಹೋಗಲು ನಿರ್ಧರಿಸಿದರು. ಅವರು ಚಿನ್ನ, ಬೆಳ್ಳಿ, ಫಲವತ್ತಾದ ಭೂಮಿಯನ್ನು ಪಡೆದುಕೊಂಡು, ಬೋಳೇಶಂಕರನಿಗೆ ಉಳಿದ ಬರಡು ಭೂಮಿಯನ್ನು ನೀಡಿದರು. ಬೋಳೇಶಂಕರ ಎದೆ ಗುಂದದೆ, ಆ ನೆಲವನ್ನು ಪಡೆದು ಸಮೃದ್ಧಿಯಾಗಿ ಬೆಳೆಯನ್ನು ಬೆಳೆದನು. ಆತ ಪ್ರತಿಯೊಬ್ಬರಿಗೂ ಒಳ್ಳೆಯದನ್ನೇ ಬಯಸುವವನಾಗಿದ್ದನು. ಹಾಗೂ ಪ್ರತಿಯೊಬ್ಬರೂ ಕೂಡ ದುಡಿದು ಜೀವನ ಸಾಗಿಸಬೇಕೆಂದು ಹೇಳುತ್ತಿದ್ದನು.

ಪ್ರಕೃತಿಯಲ್ಲಿನ ಜೀವ ಚೈತನ್ಯವಾದ ಗಿಡ, ಮರ, ಹಕ್ಕಿ, ಪಕ್ಷಿ, ಪ್ರಾಣಿ, ಪಂಚಭೂತಗಳನ್ನು ಗೌರವಿಸುತ್ತಿದ್ದನು ಹಾಗೂ ಪ್ರೀತಿಸುತ್ತಿದ್ದನು. ಗಿಡ ಮರಗಳನ್ನು ಬೆಳೆಸುತ್ತಿದ್ದನು, ಒಂದು ರೀತಿಯಲ್ಲಿ ಪರೋಪಕಾರಿ ಮತ್ತು ಪರಿಸರ ಪ್ರೇಮಿಯಾಗಿದ್ದನು ಇವನು.

**1135****Code : 15EC41T***Register  
Number*

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**IV Semester Diploma Examination, April/May-2017****PROFESSIONAL ETHICS & INDIAN CONSTITUTION****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any six from **Part-A**.  
(ii) Answer any seven from **Part-B**.

**PART – A**

1. Mention the difference between morality and Ethics. **5**
2. Mention the objectives of work Ethics. **5**
3. Distinguish between self respect and self esteem. **5**
4. List the techniques for reducing the risk or improving safety. **5**
5. List any ten environmental ethical issues. **5**
6. Explain Domestic Violence Act, 2005. **5**
7. Describe briefly the Trade Mark. **5**
8. Write a note on Lok Sabha. **5**
9. Explain the structure of Judiciary. **5**



**PART – B**

- |   |    |
|---|----|
| 10. Define values and Explain its types.  | 10 |
| 11. Explain the term 'respect for others' with suitable example.  | 10 |
| 12. List the different criteria applied for evaluating various ethical theories and mention different ethical theories. | 10 |
| 13. (a) Write note senses of Engineering ethics.  | 5  |
| (b) Mention the characteristics of Profession.  | 5  |
| 14. Explain Professional Responsibility.  | 10 |
| 15. Explain the Role of Engineers as Managers.  | 10 |
| 16. Explain the discrimination against women in the field of economic and social life.                                  | 10 |
| 17. Explain salient features of the Indian constitution.  | 10 |
| 18. Describe the functions of the   | 10 |
| (a) Chief Minister  |    |
| (b) Governor  |    |
| 19. Explain the fundamental rights of every citizen.  | 10 |
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**1136****Code : 15EC42T**

Register Number 

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**IV Semester Diploma Examination, April/May-2017****MICRO CONTROLLERS AND APPLICATIONS****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any **six** questions from **Part-A**.  
(ii) Answer any **seven** full questions from **Part-B**.

**PART – A****5 × 6 = 30**

1. List the features of 8051 micro controller. 5
2. Point out the mistake in the following instructions : (i) POP R1 (ii) MOV R1, #450 (iii) RET Label (iv) MoV R<sub>3</sub>, R<sub>4</sub> (v) MUL A, B 5
3. Write an ALP to transfer a block of data from one memory location to another location, within internal RAM. 5
4. Explain the 8051C data types. 5
5. Compare the interrupt method and polling method of servicing devices. 5
6. List the steps involved in serial data transmission. 5
7. Explain the operation of timer 0 in mode 1 with diagram. 5
8. Sketch the schematic for interfacing DC motor to 8051. 5
9. Write the schematic for interfacing ADC0804 to 8051. 5

**1 of 2****[Turn over**

**PART – B****7 × 10 = 70**

10. Explain the architecture of 8051 micro controller. **10**
  11. Describe the method of interfacing 4K data RAM to 8051 micro controller. **10**
  12. Explain the different addressing modes of 8051 with examples. **10**
  13. Write an ALP to find the largest of n 8 bit numbers. **10**
  14. (a) Write a 8051 C program to convert unpacked BCD to ASCII and to display it on Po. **5**  
(b) Write a 8051 C program to toggle all the bits of Po for every 300 ms. **5**
  15. (a) Write a C program to read P<sub>1,2</sub> and send it to P<sub>2,3</sub> after inverting it. **5**  
(b) Explain the different bit wire logical operators available in 8051 C. **5**
  16. (a) Explain bit structure of IP register. **5**  
(b) List the interrupts of 8051 and their vector locations. **5**
  17. (a) List the steps involved in executing the interrupt. **5**  
(b) Differentiate between ISR and subroutine. **5**
  18. Explain the bit structure of TMOD register and TCON register in detail. **10**
  19. Write the schematic, algorithm and a program to interface a DAC to 8051 and to generate a triangular waveform. **10**
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**1137****Code : 15EC43T***Register  
Number*

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**IV Semester Diploma Examination, April/May-2017****DIGITAL COMMUNICATION****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any **six** questions from **Part-A**.  
(ii) Answer any **seven** full questions from **Part-B**.

**PART – A**

1. Compare analog and digital communication systems. **5**
2. Define quantization and quantization noise. **5**
3. Write a brief note on companding process. **5**
4. What is digital modulation ? Name types of digital modulation techniques. **5**
5. Mention the merits and demerits of DPSK. **5**
6. What is multiplexing ? Write the advantages of multiplexing. **5**
7. Describe briefly about an error and name the types. **5**
8. What do you mean by transmission media ? And name the types. **5**
9. List the advantages of an optical fiber. **5**

**PART – B**

10. Explain briefly the functional block diagram of digital communication system. 10
11. (a) Describe the generation of PWM. 5  
(b) Mention the merits and demerits of PWM. 5
12. Explain briefly the delta modulation system with block diagram and mention it's merits. 10
13. (a) Describe briefly the binary ASK with the help of waveforms. 5  
(b) Explain briefly the non-coherent detection of binary ASK. 5
14. Describe briefly the Generation and detection of DPSK signal. 10
15. (a) Write briefly about CDMA technique. 5  
(b) Compare TDMA with FDMA. 5
16. (a) Write a brief note on TDMA. 5  
(b) Describe parity bit check coding method. 5
17. (a) Write a brief note on CRC coding method. 5  
(b) Explain ARQ error control scheme. 5
18. (a) Compare LED and Semiconductor LASERS. 5  
(b) Describe the numerical aperture and angle of acceptance. 5
19. Describe the block diagram of an optical fiber communication system. 10
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*Register  
Number*

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**IV Semester Diploma Examination, April/May-2017****DATA COMMUNICATION & COMPUTER NETWORKS****Time : 3 Hours |****| Max. Marks : 100**

- Note :** (i) Answer any **six** questions from **Part-A**.  
(ii) Answer any **seven** full questions from **Part-B**.

**PART – A**

1. Name the basic network Topologies and write advantage of each type. 5
2. Explain the concept of circuit switching. 5
3. Define frame and write a note on errors control and flow control. 5
4. Write the difference between connection oriented and connection less protocol. 5
5. List the features of wireless LANS. 5
6. Write the features of TCP/IP. 5
7. Name the ATM layer and their functions. 5
8. Write a note on Modems. 5
9. With diagram explain the functions Bridge connector. 5

**PART – B**

- |     |     |   |    |
|-----|-----|---|----|
| 10. | (a) | Define the forms of data representation.          | 5  |
|     | (b) | Explain bus topology.                             | 5  |
| 11. |     | Explain OSI model in detail.                      | 10 |
| 12. | (a) | Explain the working of token ring network.        | 5  |
|     | (b) | Describe self healing mechanism in FDDI network.  | 5  |
| 13. | (a) | Explain the Basic concepts of cellular Telephony. | 5  |
|     | (b) | Explain WIMAX.                                    | 5  |
| 14. | (a) | Explain CSMA/CD with flow chart.                  | 5  |
|     | (b) | Explain layered model of TCP/IP.                  | 5  |
| 15. | (a) | Describe the relationship between TCP and IP.     | 5  |
|     | (b) | Explain Dotted Decimal notation of IP address.    | 5  |
| 16. | (a) | Differentiate IPV4 and IPV6.                      | 5  |
|     | (b) | Explain UDP format.                               | 5  |
| 17. | (a) | Explain the working DNS server.                   | 5  |
|     | (b) | Explain the working of File Transfer Protocol.    | 5  |
| 18. | (a) | Explain the functions of Frame relay.             | 5  |
|     | (b) | Write a note on E-mail.                           | 5  |
| 19. | (a) | Explain dial up internet access method.           | 5  |
|     | (b) | Explain DSL functions.                            | 5  |
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**1286****Code : 15EC43T***Register  
Number*

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**IV Semester Diploma Examination, April/May-2018****DIGITAL COMMUNICATION****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any **six** full questions from Part – A. ( $5 \times 6 = 30$  Marks)  
(ii) Answer any **seven** full questions from Part – B. ( $7 \times 10 = 70$  Marks)

**PART – A**

1. Compare analog and digital communication systems. 5
2. Define quantization and briefly explain types of quantization noise. 5
3. Explain transmitter and receiver of adaptive delta modulation. 5
4. Compare coherent and non-coherent digital modulation methods. 5
5. Explain minimum shift keying (MSK) transmitter. 5
6. Explain cross talk and guard time. 5
7. Write a brief note on block codes. 5
8. What is transmission media and name the types of transmission media with examples. 5
9. Write a brief note on co-axial cable. 5

**PART - B**

10. Describe briefly the functional block diagram of digital communication system. 10
11. (a) Describe the generation of Pulse Position Modulation (PPM) with waveforms. 5  
(b) Mention advantages and disadvantages of Pulse Width Modulation (PWM). 5
12. Describe briefly the Differential Pulse Code Modulation (DPCM) with the help of diagram. 10
13. (a) Describe briefly the coherent detection of binary Amplitude Shift Keying (ASK). 5  
(b) Mention advantages and disadvantages of Frequency Shift Keying (FSK). 5
14. Describe briefly the transmission and detection of Differential Phase Shift Keying (DPSK). 10
15. (a) Write briefly about the working principle of T1 carrier system. 5  
(b) Mention advantages and disadvantages of Time Division Multiplexing (TDM). 5
16. (a) Explain synchronization and its need. 5  
(b) Write a note on CRC coding method. 5
17. (a) Write a note on check sum coding method. 5  
(b) List the applications of Error Control scheme. 5
18. Explain the block diagram of optical fiber communication system. 10
19. (a) Explain briefly the different types of fiber losses. 5  
(b) Compare LED and semiconductor LASERS. 5
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**1287****Code : 15EC41T****Register  
Number**

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**IV Semester Diploma Examination, April/May-2018****PROFESSIONAL ETHICS AND INDIAN  
CONSTITUTION****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any six full questions from Part – A  
(ii) Answer any seven full questions from Part – B

**PART – A**

1. Differentiate Morality and Ethics. 5
2. List the different ways the honesty reflects. 5
3. Explain : 5  
(a) Self control  
(b) Self respect
4. Recognize what are collegiality and loyalty in Engineering Professionalism. 5
5. List the ethical problems by computer in work space. 5
6. State various provisions under human rights. 5
7. Explain the main features of sexual harassment at work place bill – 2006. 5
8. Write about structure of Parliament. 5
9. Indicate the functions of Election Commission. 5

**PART – B**

- |     |     |  |    |
|-----|-----|--|----|
| 10. | (a) | Explain the characteristics of Empathy.  | 5  |
|     | (b) | Explain the principles to be followed for respect to others.                       | 5  |
| 11. | (a) | Describe the challenges in the workplace.  | 5  |
|     | (b) | Write a note on characteristics of self confidence.                                | 5  |
| 12. |     | Illustrate the moral development theories.   | 10 |
| 13. | (a) | List the steps to solve dilemma.   | 5  |
|     | (b) | State the types of inquiries in engineering ethics.                                | 5  |
| 14. | (a) | Explain collective bargaining with example.  | 5  |
|     | (b) | Explain Conflict of Interest.  | 5  |
| 15. | (a) | Explain the codes of ethics of Institution of Engineers.                           | 5  |
|     | (b) | Discuss how the plastic waste disposals create havocs.                             | 5  |
| 16. |     | Describe powers and functions of NHRC.   | 10 |
| 17. | (a) | Illustrate the detailed structure of Judiciary.                                    | 5  |
|     | (b) | Write a note on Public Service Commission (or UPSC).                               | 5  |
| 18. |     | Describe the functions of Parliament.  | 10 |
| 19. |     | Explain in detail composition, term and functions of Election Commission of India. | 10 |
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**1285****Code : 15EC44T***Register  
Number*

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**IV Semester Diploma Examination, April/May-2018****DATA COMMUNICATION & COMPUTER NETWORKS****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any six full questions from Part – A. ( $5 \times 6 = 30$  Marks)  
(ii) Answer any seven full questions from Part – B. ( $7 \times 10 = 70$  Marks)

**PART – A****(Answer any six questions from this part)**

1. Differentiate between Ring & Bus topology. 5
2. Compare LAN, WAN and MAN. 5
3. What is a frame ? Write a short note on error control & flow control. 5
4. Explain the concept of encapsulation and decapsulation. 5
5. Explain the properties of Ethernet. 5
6. Explain the features of TCP. 5
7. Explain the concepts of ports and sockets. 5
8. Explain the working of Bridges and repeaters. 5
9. Explain how does a router facilitate interconnection between two or more networks. 5

**PART – B****(Answer any seven questions from this part)**

10. Explain different network topologies with neat diagram. 10
  11. With a neat diagram explain functions of different layers of OSI model. 10
  12. Describe the working of CSMA / CD. 10
  13. Explain the working of token ring network and also explain how it is different from Ethernet. 10
  14. (a) Explain the basic concept of cellular telephone. 5  
(b) Explain the dotted decimal notation of Ip address. 5
  15. Explain the need of 10
    - (a) ARP
    - (b) RARP
    - (c) ICMP
  16. Write short notes on basics of 10
    - (a) IPv4
    - (b) IPv6
  17. Briefly explain the working of a frame relay. 10
  18. Explain the basic of FTP and FTP connections. 10
  19. (a) Explain about bridge & its functions 5  
(b) Explain the working of a gateway. 5
-

**PART – B****(Answer any seven questions from this part)**

10. Explain different network topologies with neat diagram. 10
  11. With a neat diagram explain functions of different layers of OSI model. 10
  12. Describe the working of CSMA / CD. 10
  13. Explain the working of token ring network and also explain how it is different from Ethernet. 10
  14. (a) Explain the basic concept of cellular telephone. 5  
(b) Explain the dotted decimal notation of Ip address. 5
  15. Explain the need of 10
    - (a) ARP
    - (b) RARP
    - (c) ICMP
  16. Write short notes on basics of 10
    - (a) IPv4
    - (b) IPv6
  17. Briefly explain the working of a frame relay. 10
  18. Explain the basic of FTP and FTP connections. 10
  19. (a) Explain about bridge & its functions 5  
(b) Explain the working of a gateway. 5
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**1761****Code : 15EC42T***Register  
Number*

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**IV Semester Diploma Examination, April/May-2018****MICROCONTROLLER & APPLICATIONS****Time : 3 Hours ]****[ Max. Marks : 100**

- Note :** (i) Answer any **six** questions from Part – A.  
(ii) Answer any **seven** questions from Part – B.

**PART – A**

1. Identify to which memory location the data is moved after the execution of following program statement. 5  
SET B    RS1  
CLR     RS0  
MOV     R1, # 25 H  
MOV     R3, # 65 H
2. Define assembly language and list any three advantages. 5
3. List the addressing modes supported by 8051 and explain any one of them. 5
4. List the advantages of embedded C. 5
5. Explain the bit structure of IP register. 5
6. List the steps involved in serial data transmission. 5
7. Explain the operation of counter 0 in mode 1. 5
8. List the pins of alphanumeric LCD module which help in interfacing with microcontroller. 5
9. Write the schematic for interfacing ADC 0804 to 8051 microcontroller. 5

**PART – B**

10. (a) Compare the features of RISC & CISC. 5  
(b) List any five applications of 8051  $\mu$ C. 5
11. Explain the internal RAM organization of 8051 microcontrollers. 10
12. (a) Write an ALP to convert ASCII to hexadecimal. 5  
(b) Write an ALP to transfer a block of data from internal RAM location 60 H to 70 H. 5
13. (a) Write a 8051 C program to convert ASCII into unpacked BCD & send it to P1. 5  
(b) Differentiate between assembler instructions & assembler directives. 5
14. (a) Write C statement to toggle the content of P1. 5  
(b) Write a C program to output the checksum byte for 4 bytes of data 62 H, 75 H, 68 H & 53 H on port P2. 5
15. (a) Explain different memory models available in 8051 C. 5  
(b) Explain different data types available in 8051 C. 5
16. Write schematic, algorithm and a program for 8051 to sense the push button switch & accordingly control the ON/OFF state of LED. 10
17. (a) List the interrupts of 8051 & their vector locations. 5  
(b) Explain the method of enabling only timer interrupts & disabling others. 5
18. Explain the structure of SCON reg. 10
19. Write the schematic, algorithm & a program to interface DC motor to 8051 and run the motor with 35% duty cycle. 10

**1177****Code : 15EC41T***Register  
Number*

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**IV Semester Diploma Examination, Nov./Dec.-2018****PROFESSIONAL ETHICS AND INDIAN  
CONSTITUTION****Time : 3 Hours ]****[ Max. Marks : 100**

- Instructions :** (1) Answer any six full questions from Part – A.  
(2) Answer any seven full questions from Part – B.

**PART – A**

1. List five different types of values and give two examples to each. 5
2. Briefly explain the methods of developing self-confidence. 5
3. Explain the terms : 5
  - (a) Profession
  - (b) Professional
  - (c) Professionalism
4. List the techniques for reducing risk or improving safety. 5
5. Explain the characteristics of engineers as managers. 5
6. Explain Dowry Prohibition Act, 1961. 5
7. List various provision under human rights. 5
8. State the powers and functions of Chief Minister. 5
9. List the functions of Election Commission of India. 5

**PART – B**

10. (a) Distinguish between morality and Ethics. 5  
(b) List the different ways the honesty reflects. 5
11. (a) What are the impediments to proper co-operation ? 5  
(b) Explain what should one do or not do to live peacefully. 5
12. List out different types of moral issues in engineering ethics. 10
13. (a) Explain difficulties for getting solution to the problems in moral dilemma. 5  
(b) Explain two different senses of Engineering ethics. 5
14. (a) Explain types of authority. 5  
(b) Explain about factors or principles to justify the confidentiality. 5
15. (a) Define "Computer ethics". List the issues in computer ethics. 5  
(b) Explain Environmental ethics briefly. 5
16. Explain various provisions made under the employee rights. 10
17. (a) Explain the powers and functions of National Human Rights Commission (NHRC). 5  
(b) List the types of local self-governing institutions. 5
18. Explain salient features of Indian Constitution. 10
19. Write the structure of judiciary and explain function of Supreme Court. 10
-