

R16

Code No: 131AJ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year I Semester Examinations, May - 2018

PROFESSIONAL COMMUNICATION IN ENGLISH

(Common to EEE, ECE, CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) Use prefixes to find the opposite of these verbs; [2]
i) Wrap ii) Understand
- b) What part of speech are the underlined words? [3]
i) She thought of a wise plan.
ii) I want to go now.
iii) Where are you going?
- c) Write Antonyms for the following words: [2]
i) expensive ii) dangerous
- d) Supply suitable Prepositions for the following: [3]
i) Hemant is fond _____ sweets.
ii) The woman is looking _____ her daughter.
iii) She is holding a vase _____ her hand.
- e) Rewrite the following sentences in passive voice. [2]
i) He opens the door
ii) I will ask a question
- f) Complete the following sentences using the adjective given in the brackets and [3]
i) My brother's handwriting is (bad) mine.
ii) Health is wealth. (important)
iii) Blood is water. (thick)
- g) Combine the following sentences using an appropriate form of the verb given in the brackets: [2]
i) Man and woman _____ complementary to each other. (is/are)
ii) Cats and dogs _____ not get along. (do/does)
- h) Write one word substitution for the following words: [3]
i) That which cannot be corrected
ii) A person who knows many foreign languages
iii) A remedy for all diseases
- i) Supply suitable question tags for the following sentences [2]
i) He never acts like a gentleman, _____?
ii) I'm right, _____?
- j) Change the following into Indirect Speech [3]
i) "Are you coming with us?" he asked me.
ii) He said, "I have a toothache"
iii) She said, "The earth is round."

PART-B

(50 Marks)

- 2.a) What are Abdul Kalam's opinion about the constitution?
b) What are reading strategies? Explain them. [5+5]
OR
- 3.a) What according to Abdul Kalam are essential elements of a strong Nation?
b) What are the techniques for effective reading? [5+5]
- 4.a) "We need to believe in the impossible and remove the improbable," says Satya Nadella. Discuss his views on the above statement.
b) Write a letter to the editor on the topic "Exam Stress" [4+6]
OR
- 5.a) Satya Nadella is a family man who works hard like everyone and aims to be at the top-elucidate.
b) What is the significance of the sigh in the last stanza of the Road not taken by Robert Frost? [5+5]
- 6.a) What are the methods to improve comprehension skills?
b) Write an email to your friend discussing on exam-schedule [5+5]
OR
- 7.a) Define the Non verbal communication? Explain non verbal signals in brief.
b) List out the differences between CV and Resume. [5+5]
- 8.a) What are the values represented in the poem "If" by Rudyard Kipling?
b) What is a précis and explain the features of a good Précis? [5+5]
OR
- 9.a) Draw a tree diagram to represent the following:
There are many different kinds of musical instruments. They are divided into three main classes according to the way that they are played. Some instruments are played by blowing air into them. These are called wind instruments. Some of these are said to be of the woodwind family. Examples of woodwind instruments are the flute, the clarinet and the horn. There are also various other wind instruments such as the mouth-organ and the bagpipes. Some instruments are played by banging or striking them. Instruments like this are called percussion instruments. The last big group of musical instruments have strings. There are two kinds of stringed instruments. Examples are the harp and the guitar, the violin and the cello.
b) Make notes from the following passage:
These are two considerations which deserve at least a word in any discussion of the future of the Indian theatre. The first is the rapid development of the cinema as a competitive for prophesied favor. At first, in the early flush of cinematic triumph people—some of whom might have been expected to, know better—prophesies the extinction of the theatre. It is now clear that though here and there, temporarily, the theatre may be affected, the cinema cannot hope to replace the stage and elbow it out of existence. Experience in the West has shown that the stage will always be required as a federal studio. For the technique is different and great stage actors have, always, to their disgust, discovered that film acting is at least only second best to them; it cannot mean to them what the stage means. Something is lacking in the human touch. In the theatre heart responds to heart and mind acts on mind in a way unknown to the cinema. Thus there is no danger of extinction to the theatre. On the other hand, the rivalry of the screen ought to and will put theatre to a new test and give it a new stimulus that may well lead to still

higher planes of artistic achievement. Finally, a word about a national language spoken, written and thought might do for the theatre in India. With the new awakening in social life the need of a common tongue is being increasingly felt. Much work is being done to bring out a common linguistic medium. The day when, it is accepted will be a great day for the Indian theatre, as it will be for all art in the country. But the theatre, because its life blood is spoken word, will gain most. With a common tongue, with a live national consciousness, the theatre will become to its own as definite instrument of national unity reflecting the national mind, interpreting the national heart and dreaming national dreams for the future [5+5]

10.a) How does the writer think about his education? What would he really want to learn about?

b) Write a report on fire accident occurred in drug industry.

[5+5]

OR

11.a) What are the problems prevailing in the education system?

b) Make notes from the following passage:

Occasional self-medication has always been part of normal living. The making and selling of drugs has a long history and is closely linked, like medical practice itself, with belief in magic. Only during the last hundred years or so, as the development of scientific techniques made it possible diagnosis has become possible. The doctor is now able to follow up the correct diagnosis of many illnesses-with specific treatment of their causes. In many other illnesses of which the causes remain unknown, he is still limited, like the unqualified prescriber, to the treatment of symptoms. The doctor is trained to decide when to treat symptoms only and when to attack the cause. This is the essential difference between medical prescribing and self-medication.

The advance of technology has brought about much progress in some fields of medicine, including the development of scientific drug therapy. In many countries public health organization is improving and people's nutritional standards have risen. Parallel with such beneficial trends are two which have an adverse effect. One is the use of high pressure advertising by the pharmaceutical industry which has tended to influence both patients and doctors and has led to the overuse of drugs generally. The other is emergence of eating, insufficient sleep, excessive smoking and drinking. People with disorders arising from faulty habits such as these, as well as well from unhappy human relationships, often resort to self-medication and so add the taking of pharmaceuticals to the list. Advertisers go to great lengths to catch this market. [5+5]

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R16**Code No: 131AD****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech I Year I Semester Examinations, May - 2018****COMPUTER PROGRAMMING IN C****(Common to CE, ME, MCT, MMT, AE, MIE, PTM, CEE, MSNT)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) Which statement is multi way selection statement? Why? [2]
- b) What is meant by time sharing environment? [3]
- c) Evaluate the value of the following when $x=3.45$
 $\text{floor}(x * 100 + 0.5) / 100$ [2]
- d) Can an assignment operator copy one array to another? Justify your answer. [3]
- e) Give the picture to show the memory configuration for the declaration
`int (*a) [5];` [2]
- f) Differentiate between `strspn` and `strcspn`. [3]
- g) What is the need of `typedef` command? [2]
- h) Is macro an inline function? Justify your answer. [3]
- i) Contrast text files and binary files. [2]
- j) What is a system created stream? Give examples. [3]

PART-B**(50 Marks)**

- 2.a) Write an algorithm to find LCM of two numbers.
 - b) Describe the process of program development. [5+5]
- OR**
- 3.a) What are the three differences between the conversion codes for input formatting and output formatting? Explain them with examples.
 - b) What is the need of explicit type conversion in C? How to cast the data? [5+5]
- 4.a) Write a recursive function to solve towers of Hanoi problem and trace it with different input.
 - b) Discuss various storage classes of C. [5+5]
- OR**
- 5.a) Write a function that copies a one-dimensional array of n elements into a two-dimensional array of k -rows and j -columns. The rows and columns must be a valid factor of the number of elements in the one-dimensional array i.e., $k * j = n$.
 - b) Discuss the different ways of passing arrays as a parameter to a function. [5+5]

- 6.a) Discuss dynamic memory management in C.
b) Explain in detail applications of pointers.

[5+5]

OR

7. Write a C program that converts a string representing a number in Roman numeral form to decimal form. [Follow regular convention for Roman numbers. Read string – parse it to convert in to decimal]
Eg: Input: XL output: 40

[10]

- 8.a) How to pass a structure to a function? Give illustrations.
b) Define a structure of arrays. Write code to read values in to this structure.

[5+5]

OR

- 9.a) Is enumeration a derived data type? Justify your answer with suitable example.
b) Discuss any three types of preprocessor commands.

[5+5]

- 10.a) Compare formatting input/output functions with scanf and printf.
b) What is the purpose of ungetc() function.

[5+5]

OR

11. Write a program to read two file names, append the first file content at the end of the second file content.

[10]

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R15

Code No: 121AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.Tech I Year Examinations, May - 2018****COMPUTER PROGRAMMING****(Common to CE, EEE, ME, ECE, CSE, EIE, IT, MCT, ETM, MMT, AE, AME, MIE, PTM, CEE, MSNT)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions:

PART- A**(25 Marks)**

- 1.a) Distinguish between variables and constants. Give example. [2]
- b) Explain the difference between break, goto and continue statements. [3]
- c) What are the storage classes in C? [2]
- d) Write a C program to interchange two values. [3]
- e) Give the syntax of calloc function. [2]
- f) What is a dangling Pointer? How it is different from normal Pointer? [3]
- g) Write the array applications. [2]
- h) Distinguish between text and binary files. [3]
- i) Write brief notes on unions. [2]
- j) What are the operations performed in linked lists [3]

PART-B**(50 Marks)**

2. State and explain various identifiers in C program. And also discuss about operator precedence in expression evaluation with a suitable example. [10]

OR

- 3.a) Write and explain the structure of C program. [5]
- b) Write a program to print prime numbers up to a given number 'n'. [5]

- 4.a) In what way a recursive function differs from non-recursive functions? Explain. [5]
- b) With the help of flowchart and example program explain the while loop. [5]

OR

- 5.a) Define a function for determining whether a given character is a vowel or not. [5]
- b) Write the program for multiplication of two matrices? [5]

- 6.a) Discuss the programming applications of pointers. [5]
- b) Explain the role of pointers in inter function communication. [5]

OR

- 7.a) Illustrate the character input/output functions with suitable examples. [5]
- b) What are the string manipulation functions? Explain any three of them. [5]

8.a) What is the main reason for using structure? What special keyword is used in defining a structure? Illustrate with example.

b) Demonstrate how one structure can be copied to another of the same type. [5+5]

OR

9.a) How to read from and write to a file? Explain with examples.

b) What is file? Explain about the Input and output functions of files. [5+5]

10. Sort the following 10 elements using bubble sort technique. Write the algorithm for the same. [10]

85 53 96 35 27 87 37 12 90 23

OR

11.a) Give brief description about storage representation on queues.

b) Write a program to implement stack using arrays. [5+5]

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R13

Code No: 111AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.Tech I Year Examinations, May - 2018****COMPUTER PROGRAMMING****(Common to CE, EEE, ME, ECE, CSE, EIE, IT, MCT, MMT, AE, AME, MIE, PTM, CEE, AGE)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) Distinguish between variables and constants. Give example. [2]
- b) Explain the difference between break, goto and continue statements. [3]
- c) What are the storage classes in C? [2]
- d) Write a C program to interchange two values. [3]
- e) Give the syntax of calloc function. [2]
- f) What is a dangling Pointer? How it is different from normal Pointer? [3]
- g) Write the array applications. [2]
- h) Distinguish between text and binary files. [3]
- i) Write brief notes on unions. [2]
- j) What are the operations performed in linked lists? [3]

PART-B**(50 Marks)**

2. State and explain various identifiers in C program. And also discuss about operator precedence in expression evaluation with a suitable example. [10]

OR

- 3.a) Write and explain the structure of C program. [5+5]
- b) Write a program to print prime numbers up to a given number 'n'.
- 4.a) In what way a recursive function differs from non-recursive functions? Explain. [5+5]
- b) With the help of flowchart and example program explain the while loop.

OR

- 5.a) Define a function for determining whether a given character is a vowel or not. [5+5]
- b) Write the program for multiplication of two matrices?
- 6.a) Discuss the programming applications of pointers. [5+5]
- b) Explain the role of pointers in inter function communication.

OR

- 7.a) Illustrate the character input/output functions with suitable examples. [5+5]
- b) What are the string manipulation functions? Explain any three of them.

8.a) What is the main reason for using structure? What special keyword is used in defining a structure? Illustrate with example.

b) Demonstrate how one structure can be copied to another of the same type. [5+5]

OR

9.a) How to read from and write to a file? Explain with examples.

b) What is file? Explain about the Input and output functions of files. [5+5]

10. Sort the following 10 elements using bubble sort technique. Write the algorithm for the same. [10]

85 53 96 35 27 87 37 12 90 23

OR

11.a) Give brief description about storage representation on queues.

b) Write a program to implement stack using arrays. [5+5]

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R09

Code No: 51004

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year Examinations, May - 2018

ENGINEERING PHYSICS

(Common to CE, EEE, ME, ECE, CSE, CHEM, EIE, BME, IT, MCT, AE, BT, AME, MIE, PTM, AGE)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Describe the seven crystal with diagrams.
b) What is packing fraction? Show that FCC is most closely packed of the three cubic structures by working out the packing factors. [7+8]
- 2.a) Distinguish between Frenkel and Schottky defects.
b) Explain the powder X-ray diffraction method used for the analysis of crystal structures. [7+8]
- 3.a) Derive an expression for the de-Broglie wavelength of an electron.
b) Derive time independent Schrödinger's wave equation for a free particle. [7+8]
- 4.a) Discuss the salient features of Kronig-Penny model of a crystal.
b) Explain the concept of effective mass of an electron. [7+8]
- 5.a) Derive an expression for the carrier concentration in n-type semiconductors.
b) Explain the working principle of PN junction Diode and I-V Characteristics of PN Junction. [7+8]
- 6.a) Obtain an expression for paramagnetic susceptibility (χ). How does the Paramagnetic susceptibility of a material vary with temperature?
b) Describe hysteresis loop. How is it used to classify the magnets? [7+8]
- 7.a) Describe with suitable diagram, principle and working of He-Ne laser system.
b) Define acceptance angle of fiber and numerical aperture of the fiber. Derive expression for them? [7+8]
- 8.a) Define and explain the sound absorption coefficient of materials.
b) Derive Sabine's mathematical relation for reverberation time. [7+8]

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R07

Code No: Z0422

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year Examinations, May - 2018

NETWORK ANALYSIS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 80

Answer any five questions

All questions carry equal marks

- 1.a) For the circuit shown in figure 1, use the source transformation method to calculate V_{R4} . For the circuit, $R_1 = 75 \Omega$, $R_2 = 25 \Omega$, $R_3 = 95 \Omega$, $R_4 = 20 \Omega$, $V_S = 40V$ and $I_S = 0.3A$.

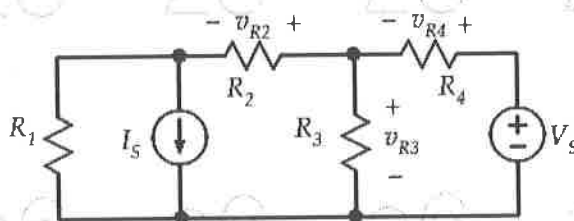


Figure: 1

- b) Find the power supplied by 12v source as shown in figure 2.

[8+8]

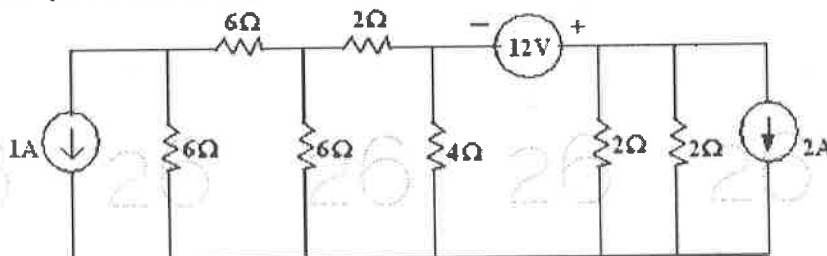


Figure: 2

- 2.a) The impedances of parallel circuit are $Z_1 = (6+j8)$ and $Z_2 = (8-j6)$. If the applied voltage is 120V, find
- Current and power factor of each branch.
 - Overall current and power factor of the combination.
 - Power consumed by each impedance.
- b) Two coupled coils with $L_1 = 0.02H$, $0.01H$ and $k = 0.5$ are connected in four different ways; series aiding, series opposing and parallel with both arrangement of the winding sense. What are the four equivalent inductances? [8+8]
- 3.a) A series RLC circuit consists of 50Ω resistance, $0.2H$ inductance and $10\mu F$ capacitor with the applied voltage of 20V. Determine the resonant frequency. Find the Q-factor of the circuit. Compute the lower and upper frequency limits and also find the bandwidth of the circuit.
- b) Determine the currents in unbalanced star connected load supplied from symmetrical 3-phase, 400V system. The branch impedance of the loads are $Z_A = 10\angle 30^\circ \Omega$, $Z_B = 10\angle 45^\circ \Omega$, $Z_C = 10\angle 60^\circ \Omega$. The phase sequence is A-B-C. [8+8]

- 4.a) Write the cut set matrix and tie set matrix of the circuit shown in figure 3.

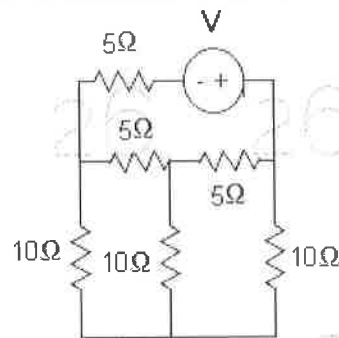


Figure: 3

- b) Explain the procedure to draw a dual network.

[12+4]

- 5.a) Determine the load resistance to receive max. Power from the source; also find the max. Power delivered to the load in the circuit shown in figure 4.

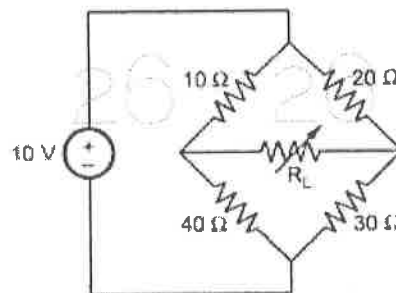


Figure: 4

- b) Find the current through 10 ohm resistor using Norton's theorem for the given network shown in figure 5.

[8+8]

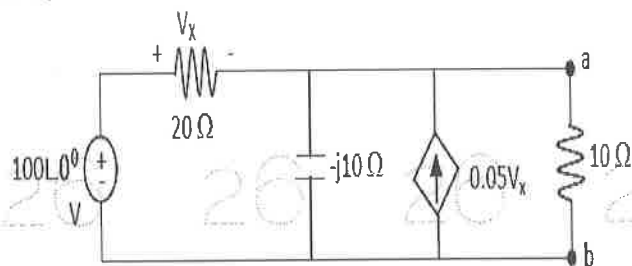


Figure: 5

6. Find the Z and Y parameters of the circuit shown in figure 6.

[16]

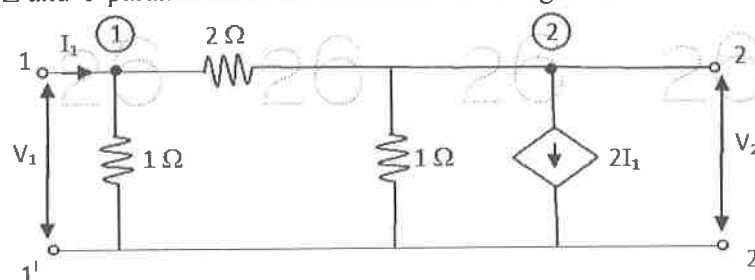


Figure: 6

- 7.a) Derive expression for transient response of RC series circuit excited by a sinusoidal source.
- b) Find $i_0(t)$ for $t > 0$ in the network shown in figure 7 using the step-by-step method.

[8+8]

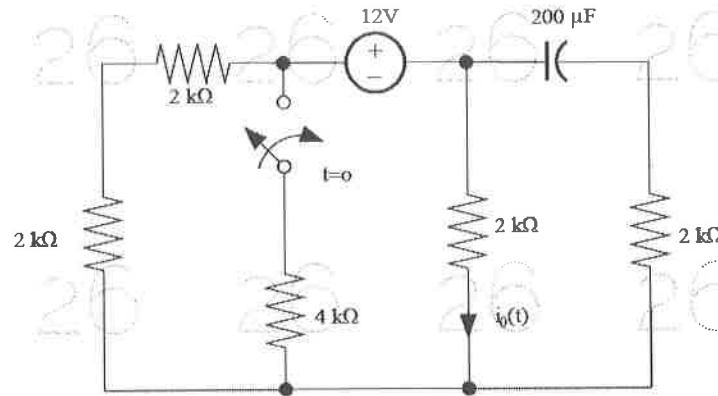


Figure: 7

- 8.a) Design a T-section constant K-pass filter having a cut-off frequency of 10Hz and design impedance $R_0 = 600$ ohms. Find the characteristic impedance and phase constant at 25 kHz.
- b) Design a m-derived high pass filter with a cut off frequency of 10 kHz, design impedance of 600Ω and $m = 0.3$.

[8+8]

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