

**R16**

Code No: 132AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B.Tech I Year II Semester Examinations, August - 2018

COMPUTER PROGRAMMING IN C

(Common to EEE, ECE, CSE, EIE, IT, ETM)

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) Give octal number for  $10001011_2$ . [2]
- b) Explain different primary data types used in C language. [3]
- c) Define binary search. How it different from linear search? [2]
- d) Write a function that checks whether a given year is leap year or not. [3]
- e) List any four string manipulation functions? [2]
- f) Comment on the size of pointer to different datatypes (int \*, char \*, float \*). [3]
- g) What do you mean by command line arguments? [2]
- h) Differentiate between structure and union. [3]
- i) Discuss about ftell() function. [2]
- j) What is meant by flushing of a file? [3]

**PART-B**

**(50 Marks)**

2. Write a C program that reverses a number that is entered by the user by making use of do-while loop. How is this looping technique different from while loop? [10]

**OR**

- 3.a) What is an Identifier? List the rules required to form variable names in C. [5]
- b) Write a program showing the use of if else and switch statements in C? [5+5]

4. Write a program to check whether an array is ordered. If ordered print a suitable message as "Ascending" or "Descending". Otherwise "not ordered". [10]

**OR**

5. What do you mean by recursion? What conditions should be mandatory for writing a recursive function? Explain using a suitable C program. [10]

6. A C program contains the following declaration.

```
static int x[8] = {10, 20, 30, 40, 50, 60, 70, 80};
```

- a) What is the meaning of x
- b) What is the meaning of (x + 2)
- c) What is the value of \*x
- d) What is the value of (\*x + 2)
- e) What is the value of \*(x + 2)

[10]

**OR**

7. Write a program to copy input to output, replacing each string of one or more blanks by a single blank. [10]

8. What is bit fields? Write a program to print the binary equivalent for a given number using bit fields. [10]

**OR**

9. Write a program to calculate the grade of the student in a class of 60 students using structures. [10]

10. What operations can be performed on binary files? Explain. [10]

**OR**

11. Write a program to find the number of occurrences of a given word in a given file. [10]

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**R16**

Code No: 132AH

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year II Semester Examinations, August - 2018

PROFESSIONAL COMMUNICATION IN ENGLISH

(Common to CE, ME, 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) Fill in the blanks with the right article given in brackets.
- i) \_\_\_ book that I have read is an interesting play by J.K. Rowling.
  - ii) Are you \_\_\_ university student or a college student? [2]
- b) Fill in the blanks with the right preposition given in brackets.
- i) A day \_\_\_ (on/in/at) is slightly longer than a day on Earth.
  - ii) She was born \_\_\_ (in/to/into) a tribal hamlet located in Adilabad.
  - iii) Be careful! Don't go \_\_\_ (above/over/beyond) the trees. [3]
- c) Fill in the blanks with suitable form of the word given in brackets.
- i) She was \_\_\_ (impeccable) dressed.
  - ii) We have been \_\_\_ (inundate) with offers of help. [2]
- d) Fill in the blanks with the right homophone given in brackets.
- i) He needs to learn to \_\_\_ (curb/kerb) his bad temper.
  - ii) Some displayed their \_\_\_ (wares/wears) on stalls, while others had just spread them out on the pavement. [3]
- e) Fill in the blanks with the right phrasal verb given in brackets.
- i) She has a great voice but whenever she's singing in public she feels shy and \_\_\_ (holds back/holds on).
  - ii) Don't worry, I'm sure we can work something \_\_\_ (out/ over) so that everyone is happy. [2]
- f) Fill in the blanks with suitable forms of the verbs given in brackets.
- i) Campaigners say that the corrupt politician should \_\_\_ (arrest).
  - ii) Every year, the state of Telangana \_\_\_ (celebrate) its unique cultural festival.
  - iii) He \_\_\_ (work) for eight years rigorously before the scientist was awarded the Nobel Prize. [3]
- g) Fill in the blanks with the right question tag given in brackets.
- i) Do you think that demonetization is good, \_\_\_ (isn't it/ don't you)?
  - ii) There's a queue of companies wanting to sell the product, \_\_\_ (isn't there/aren't there)? [2]
- h) Fill in the blanks with the right word given in brackets.
- i) He became \_\_\_ (adapt/adept/adopt) at getting even the shyest students to talk.
  - ii) There is a relapse in her \_\_\_ (sight/cite/site) before she was rushed to ophthalmologist.
  - iii) The ball went \_\_\_ (through/thorough/threw) the window.

- i) Fill in the blanks with suitable idiom given in brackets. [3]  
 i) He had to receive and accept criticism for something he has not done. He \_\_\_\_ (brings a lump to his throat/takes his lumps) and doesn't complain.  
 ii) It was an angry argument and fight. \_\_\_\_ (They made a pitch for something/ There was a pitched battle) between police and rioters. [2]
- j) Fill in the blanks with the right one word substitute given in brackets.  
 i) Mr. C. Prakash is the former university student of our university. He is an \_\_\_\_ (alumnus/almanac).  
 ii) A person who gives help and sympathy to people who need it is called \_\_\_\_ (Samaritan/reticent).  
 iii) An Object through which light cannot pass is \_\_\_\_ (opaque/translucent). [3]

**PART- B**

**(50 Marks)**

- 2.a) "The important elements that constitute a nation are: being disease free; wealth; high productivity; harmonious living and strong defence." Discuss this statement with reference to Dr. A.P.J. Kalam's Presidential Address.  
 b) What is the importance of topic sentence, supporting sentences and closing sentence in writing a paragraph? [5+5]

**OR**

- 3.a) What is Dr. Kalam's vision of a developed India?  
 b) Write a paragraph on environmental conservation in about 200 words. [5+5]

- 4.a) How did Satya Nadella send an inspirational call to his co-workers through his email?  
 b) In the capacity of the student co-ordinator of a two-day National Seminar, write a letter of request inviting a resource person to deliver the Keynote Address in the Inauguration Session. [5+5]

**OR**

- 5.a) According to Nadella, what are the elements of greatness a company must possess, in order to achieve greatness?  
 b) Write a letter of complaint to the Customer Service Centre of ABC Electronics regarding an LED TV that you have purchased recently. You may request for the replacement of the product since it is still in the warranty period. [5+5]

6. Write a letter of application along with resume for the post of Junior Telecom Officer, BSNL. [10]

**OR**

7. Write a letter of application along with resume for the post of Software Engineer, Microsoft Corporation. [10]

- 8.a) Explain J.C. Hill's remark in 'Good Manners': 'No man really understands himself.'  
b) What are the steps to be followed in effective precis writing? [5+5]

OR

- 9.a) How did J.C. Hill explain in his essay on 'Good Manners' that one could save a lot of argument and anger in life?  
b) Make a precis of the following passage and give a suitable title to the same. Home is the young, who known "nothing of the world and who would be forlorn and sad, if thrown upon it. It is providential, shelter of the weak and inexperienced, who have to learn as yet to cope with the temptations which lies outside of it. It is the place of training of those who are not only ignorant, but have no yet learnt how to learn, and who have to be taught by careful individual train, how to set about profiting by the lessons of teacher. And it is the school of elementary studies - not of advances, for such studies alone can make master minds. Moreover, it is the shrine of our best affections, the bosom of our fondest recollections, at spell upon our after life, a stay for world weary mind and soul; wherever we are, till the end comes. Such are attributes or offices of home, and like to these, in one or other sense or measure, are the attributes and offices of a college in a university.[5+5]

- 10.a) How does the letter writer critique the education system in India? Does he make convincing argument in Raj Kinger's 'Oh Father, Dear Father'? Why/why not?  
b) What are the parts of a report in manuscript format? Explain. [5+5]

OR

11. Write a report in the manuscript format about any experiment that you have recently conducted in any lab. [10]

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**R15**

Code No: 121AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B.Tech I Year Examinations, August - 2018

ENGINEERING PHYSICS

(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) What is Covalent Bond? [2]
- b) What is Vander-Waal's Bond? [3]
- c) Define an Ensemble. [2]
- d) What is the importance of Density of States? [3]
- e) Define the Dipole Moment. [2]
- f) What is the importance of Dielectric Constant? Explain. [3]
- g) Define Acceptance Cone. [2]
- h) What is the importance of Step Index fiber? [3]
- i) Explain about bottom-up approach for synthesis of nanomaterials. [2]
- j) Define the Reverberation Time. [3]

**PART-B**

**(50 Marks)**

- 2.a) Describe in detail powder method to determine the crystal parameter.
- b) Deduce the expression for the inter planar distance in terms of Miller indices for a cubic structure. [5+5]

**OR**

- 3.a) Give an account of Ionic Bond, Metallic Bond, Hydrogen Bond and explain with suitable examples.
- b) Write notes on structure of NaCl crystal. [5+5]

- 4.a) On the basis of band theory how the crystalline solids can be classified into conductors, semiconductors and insulators?

- b) Write an essay on Davisson and Germer's Experiment. [5+5]

**OR**

- 5.a) Write short notes on Bloch Theorem and Kronig-Penny Model (Qualitatively)
- b) Write the Physical Significance of the Wave Function in detail. [5+5]

- 6.a) Derive an expression for calculation of internal field for a cubic dielectric crystal  
b) Derive and establish the importance of Clausius - Mossotti Equation. [5+5]

**OR**

- 7.a) Explain in detail the characteristics of B-H curve of ferromagnetic material, and What are hysteresis losses? Explain.  
b) Write short notes on Piezo -electricity and Ferro- electricity. [5+5]

- 8.a) Describe principle of Newton rings experiment and derive an expression for radius of curvature of plane convex lens.  
b) Write a note on Application of Optical Fiber in communication systems with the help of block diagram. [5+5]

**OR**

- 9.a) Write characteristics of Lasers.  
b) Write notes on Spontaneous and Stimulated Emission of Radiation. [5+5]

- 10.a) Derive an expression for carrier concentration in Intrinsic Semiconductors.  
b) Write notes on Quantum Confinement. [5+5]

**OR**

- 11.a) Write short note on I-V Characteristics of PN Junction diode.  
b) Write a note on Direct and Indirect Band gap semiconductors. [5+5]

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