This question paper contains 2 printed pages.

B.C.A. (Pt. -I)

134

Roll No. 24583

Pri. of Pro. Lan. (Through C)

B.C.A (Part-I) EXAMINATION, 2019

(Faculty of Science)

(Three Year Scheme of 10+2+3 Pattern)

100113

PRINCIPLES OF PROGRAMMING LANGUAGE (THROUGH 'C') - 134

Time Allowed : Three Hours

Maximum Marks : 100

Answer all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly, all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll numbers on question paper before start writing answers of questions.

PART - I : (Very short answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.

PART - II : (Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.

PART - III : (Long answer) consists of 5 questions of 12 marks each with internal choice.

PART - I

1. Attempt **all** questions. Each question carries 2 marks. 10x2=20

(i) What is an algorithm ?

(ii) Draw and list any 5 components used in a flow chart.

(iii) Give the skeleton/basic outline of a C program.

(iv) List logical and relational operators.

(v) Give syntax of a while loop. Describe its features.

(vi) Define an array. Declare an array to hold 5 real number values.

(vii) What is a function prototype ? What are its elements ?

(viii) What is a pointer ? Declare a pointer and an array and store the address of the array in the pointer.

(ix) Describe using a diagram how the memory is allocated for each member of a structure.

(x) How is a file opened for reading in 'read-only' mode ?

PART - II

2. Attempt **all** questions. Each question carries 4 marks. 5x4=20

(i) Write an algorithm to compute factorial of a number.

(ii) Write a C program to check if the year entered is a Leap year or not. Leap year is defined as every 4^{th} year, if it is a non-century year, and every 400^{th} year, otherwise.

(iii) Differentiate between for, while and do-while loops.

(iv) What is recursion ? Write a recursive function to calculate HCF/GCD of two numbers.

(v) Differentiate between structure and unions.

PART - III

4x3=12

3. What is :
   (i) A Compiler
   (ii) An Interpreter
   (iii) An Assembler
   (iv) A Linker

OR

Write pseudo-code and draw flow-chart to compute sum of digits of a positive integer. 12

4. Discuss about different operators available in C language. What is meant by operator precedence and associativity ? 8+4=12

OR

Write a C program using switch-case to print marks range given a student's grade as per the following table : 12

Grade Letter	Min. Marks	Max. Marks
D	0	40
C	40	60
B	60	80
A	80	100

5. Write a program to find all prime numbers between 1 and N. 12

OR

Write a C program to input and sort an array of integers using linear sort. 12

6. What is function definition ? Write a custom C function and use it in a program to find all occurrences of a character in a string. 5+7

OR

Write a program to transpose a matrix using custom function. Access the matrix using pointer notation. 12

7. (i) What are Structures and Unions ? How are they declared ? 4

   (ii) Write a program to declare and use a structure to hold student data - roll no, name, program, and semester. Input details of 3 students and print them sequentially. 8

OR

Write a program to input multiple lines one-by-one and store them in a file. The input will end when the user types "STOP". Then read the file and print the output line by line again. 1

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This question paper contains 2 printed pages. Roll No. 245535

BCA (Part-I) Comp.Org.

135

100508

B.C.A. (Part-I) EXAMINATION, 2019

(Faculty of Science)

(Three Year Scheme of 10+2+3 Pattern)

COMPUTER ORGANIZATION - 135

Time Allowed : Three Hours Maximum Marks : 100

No supplementary answer-book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer-book only.

All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll number on question paper before start writing answers of questions.

PART - I

Each question is of 2 marks. Word limit for the answer is 40 words. 10x2=20

1. (a) What is system clock ?
   (b) What are magnetic tapes ?
   (c) What is instruction word ?
   (d) Discuss about the shift microoperation with example.
   (e) Explain the design of client server computer.
   (f) What are the features of Pentium Microprocessor ?
   (g) What is the EPROM and EEPROM ?
   (h) What is main memory ?
   (i) What are auxiliary storage devices ?
   (j) Discuss about the buses.

PART - II

Each question is of 4 marks. Word limit for the answer is 80 words. 5x4=20

2. Explain Von Neumann Architecture.

3. Discuss about the control unit and its functions.

4. What do you mean by decoding of instruction ?

5. Explain static and dynamic RAM.

6. Give the differences between microcontroller and microprocessor.

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PART - III

Each question is of 12 marks. 3x4=12

7. Discuss following points about the storage devices :
   (a) Von Neumann Architecture
   (b) Mother Board
   (c) Bus Architecture

OR

Discuss following :
   (a) Computer Ports
   (b) Network Cables
   (c) Network Adaptor Card

8. What do you mean by Instruction Execution Cycle ? Discuss in detail with branch, skip, jump and shift instruction. 12

OR

Discuss the classification of Computer Systems with advantages and limitations of each.

9. Design a common bus system using multiplexer for 4 registers of 4 bit each. Also discuss the simple organization of CPU with memory and I/O subsystems. 12

OR

Discuss about the Register Transfer Language and Draw the block diagram of the hardware that implements the following statement.

X+YZ : R1⇐R2, R2⇐R1

10. Why do we need so many addressing modes ? Explain addressing modes in detail. 12

OR

What do you mean by locality of reference ? Also discuss about the cache memory.

11. Explain about the 8085 microprocessor with suitable diagram. 12

OR

Discuss about the RISC and CISC Computer with merits and demerits.

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BCA (Part-I)

133

Roll No. [illegible]

Gen. Eng.

B.C.A. (Part-I) EXAMINATION, 2019

GENERAL ENGLISH - 133

100557

Time Allowed : Three Hours

Maximum Marks : 100

Answer of all questions (short answer as well as descriptive) are to be given in the main answer-book only. Answer of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

No supplementary answer-book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer-book only.

Write your roll number on question paper before start writing answers of questions.

PART - I

Each question is of **2** marks.

1. (a) What is a good communication ?
   (b) Frame 2 sentences on 'and' and 'but'.
   (c) Write any two media of oral communication.
   (d) Name any 4 types of formal letters.
   (e) What is a Business Report ?
   (f) Frame any two sentences each prefix 'un' and suffix 'ed'.
   (g) Write any two advantages of written communication.
   (h) Mention any 2 types of interviews.
   (i) Write any 2 guidelines for using visual aids.
   (j) Explain the importance of electronic media.

PART - II

Each question is of **4** marks.

2. Frame **2** sentences each with the following Modal Verbs (**any 4**) :
   (a) Ought to (b) Must (c) Need to (d) Might
   (e) Could (f) Dare to

3. What are the essentials of good communication ?

4. Write any four guidelines that an interviewee should follow.

5. What is the advantage of visual presentation ?

6. Write any four merits and demerits of written communication.

PART - III

Each question is of 12 marks.

7. Explain in detail the process and 7'C's of communication.

OR

Explain any 2 theories and models of communication. Explain with suitable examples.

8. What are the different media of written communication ? Discuss the merits and demerits of written communication.

OR

Write a letter to municipality corporation complaining about the negligence of garbage boxes in your locality.

9. Write a detailed report on the yearly academic activities held in your department in the college.

OR

Identify the Adverbs and Adjectives in the following sentences :

(a) Her English is good.

(b) I ran to the station quickly.

(c) The baby rubbed her eyes tiredly.

(d) She cooks terrible.

(e) She is a very warm person.

(f) Your flat seems tidy today.

10. Write the main principles of effective oral communication and also mention its advantages and disadvantages.

OR

What is the importance of listening ? Discuss the barriers of listening.

11. Write a job application to apply in Microsoft company for the position of software engineer.

OR

What is Visual presentation ? Give some guidelines for using Visual aids.

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This question paper contains 2 printed pages.

Roll No. 245881

B.C.A. (Pt.-I)

131

B.C.A. (Part-I) EXAMINATION, 2019

[Also Common for (Hons.) Part I]

(Three Year Scheme of 10+2+3 Pattern)

100154

ELEMENTARY PHYSICS - 131

Time Allowed : Three Hours

Maximum Marks : 100

No supplementary answer-book will be given to any candidate. Hence the candidates should write their answer precisely in the main answer-book only.

All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll number on question paper before start writing answers of questions.

PART - I

10x2=20

1. (a) What is the Gauss's law ?

(b) Why electric field lines never cross ?

(c) Define the flux associated with a magnetic field.

(d) What do you mean by domain ?

(e) Determine the total number of possible input combinations for a 4-input AND gate.

(f) Determine the values of A, B, C and D that make the product term $A\bar{B}C\bar{D}$ equal to 1.

(g) What is multiplexer (MUX) ?

(h) Identify each device : (i) IC 7485 and (ii) IC 7446.

(i) What do you mean by Flip-flops ?

(j) How many flip-flops are required to produce a divide-by-32 device ?

PART - II

5x4=20

2. Prove that "The capacitance of a parallel-plate capacitor is proportional to the area of its plates and inversely proportional to the plate separation."

3. Classify the substances on the basis of magnetic susceptibility.

4. Write the output expression and Truth table for a 2-input **NOR** with input variables **A** and **B**.

5. Explain the basic operation of a Demultiplexer.

6. Draw the Logic symbol and give the Truth table for a positive edge-triggered D flip-flop.

PART - III

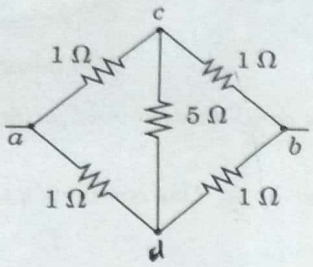
7. (a) Draw the current-potential difference curve for an ohmic material. What does the slope of the curve represent ? Explain the difference between resistance and resistivity. 8×12=60 8+4

(b) Calculate the resistance of an aluminum cylinder that is 10.0 cm long and has a cross-sectional area of $2.00 \times 10^{-2}\ m^2$. (Resistivity of aluminum $= 2.82 \times 10^{-8}\ \Omega$-m)

OR

(a) Write a short note on Kirchhoff's rules. 6+6

(b) Consider five resistors connected as shown in Figure below. Find the equivalent resistance between points a and b.



8. A toroid having N closely spaced turns of wire, calculate the magnetic field in the region occupied by the torus, a distance r from the center. 12

OR

Derive an expression of the magnetic force between two parallel conductors.

9. (a) Using Boolean algebra techniques, simplify this expression : 8+4

$AB + A(B + C) + B(B + C)$

(b) Convert the following SOP expression to an equivalent POS expression :

$\bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + \bar{A}BC + A\bar{B}C + ABC$

OR

(a) What do you mean by Karnaugh maps ? Explain briefly. 6+6

(b) Map the following SOP expression on a Karnaugh map : $\bar{A} + A\bar{B} + AB\bar{C}$.

10. Explain the concept of parity. Implement a basic parity circuit with exclusive-OR gates and explain the operation of basic parity generating and checking logic. 3+5+4

OR

Describe the 7447 decimal-to-BCD priority encoder. 12

11. What is race-around condition ? Explain the basic operation of Master-Slave J-K flip-flop. 4+8

OR

What do you mean by up/down counters ? Draw the 3-bit up/down synchronous counter and write its truth table. 2+10

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This question paper contains 3 printed pages. Roll No. 245881

B.C.A. (Part-I) **Bas. Math.**

132

B.C.A. (Part-I) EXAMINATION, 2019

102155

(Faculty of Science)

(Three-Year Scheme of 10+2+3 Pattern)

BASIC MATHEMATICS - 132

Time Allowed : Three Hours Maximum Marks : 100

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer - book.

Write your roll number on question paper before start writing answers of questions.

PART - I : (Very Short Answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.

PART - II : (Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.

PART - III : (Long answer) consists of 5 questions of 12 marks each with internal choice.

PART - I

1. Very short answers type questions.

(a) Find the domain of the function $\frac{|x|}{x}$.

(b) If $f : R \to R$, where $f(x) = x^2$, for all $x \in R$ then find $f^{-1}(9)$.

(c) If $A+B = \begin{bmatrix} 5 & 2 \\ 0 & 1 \end{bmatrix}$ and $A-B = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$, then find A and B.

(d) If $A = \begin{bmatrix} 2 & 4 & -3 \\ 1 & -2 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 1 \\ 4 & -2 \\ 3 & 0 \end{bmatrix}$, then find $(AB)^T$.

(e) If $y = m_1x + C_1$ and $y = m_2x + C_2$ are two straight lines such that $m_1 m_2 = -1$, find the relation between these lines.

(f) Solve the equation $x^2 - 2x - 8 = 0$.

(g) Find the mode of the following data :

16, 19, 19, 20, 15, 19, 20, 21, 24, 19, 16, 22, 16, 18, 20, 16, 19.

(h) Define mean square deviation.

(i) Write down the relation between ${}^nP_r$ and ${}^nC_r$.

(j) Find the probability that there are 53 Sundays in a year.

PART - II

2. Attempt all the parts :

(a) Prove that the identity function I_x on the non empty set X is a one-one onto function.

(b) If $A = \begin{bmatrix} 1 & 2 & 3 \\ -4 & 1 & 0 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 1 \\ 0 & 5 \\ -1 & -3 \end{bmatrix}$, then find AB and BA.

(c) Show that the points (2, 5), (4, 6) and (8, 8) are Collinear.

(d) Calculate the mean for the following data :

Class :	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45
Frequency :	5	6	15	10	5	4	2	2

(e) How many Committees consisting of 4 persons including a given Chairperson can be formed from a group of 10 persons ?

PART - III

Attempt **all** the following questions by taking **any two** parts from each question :

3. (a) If $f : R \to R$ and $g : R \to R$ are the functions, where $f(x) = 2x + 3$ and $g(x) = x^2 - 1$, for all $x \in R$, then find $(f + g)(x)$, $(f.g)(x)$, $(f + g)(-3)$ and $(f.g)(5)$.

(b) Show that the function $f : R - \{3\} \to R - \{1\}$, where $f(x) = \dfrac{x-2}{x-3}$, for all $x \in R - \{3\}$ is a bijection.

(c) If $f : R \to R$ and $g : R \to R$ are two functions such that $(gof)(x) = \sin^2 x$ and $(fog)(x) = \sin x^2$, for all $x \in R$, then find f and g.

4. (a) Evaluate the determinant $\Delta = \begin{vmatrix} x & a & a \\ a & x & a \\ a & a & x \end{vmatrix}$.

(b) Find the inverse of the matrix $A = \begin{vmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{vmatrix}$.

(c) Solve the following system of linear equations by Camer's rule

$x + y + z = 7$, $x + 2y + 3z = 16$, $x + 3y + 4z = 22$.

5. (a) Find the equation of the straight line perpendicular to the line $5x - 2y = 8$ and passing through the point of intersection of the lines $4x + y - 1 = 0$ and $7x - 3y - 35 = 0$.

(b) Find the equation to the circle whose one of the diameter is the line segment joining the centres of the circles $x^2 + y^2 + 6x - 14y - 1 = 0$ and $x^2 + y^2 - 4x + 10y - 2 = 0$.

(c) For what value of k, the equation $(4 - k)x^2 + 2(k + 2)x + (8k - 1) = 0$ will have equal roots ?

6. (a) Calculate the median for the following cumulative frequency distribution :

Less than (x_i) :	20	30	40	50	60	70	80	90	100
Frequency (f_i) :	0	4	16	30	46	66	82	92	100

(b) Calculate the standard deviation for the following frequency distribution :

(x_i) :	5	15	25	35	45	55	65
(f_i) :	1	5	12	22	17	9	4

(c) Calculate the Coefficient of correlation for the following bivariate distribution :

(x_i) :	65	66	67	67	68	69	70	72
(y_i) :	67	68	65	68	72	72	69	71

7. (a) Find the probability of getting a total of atleast 6 in a simultaneous throw of three dice.

(b) One card is drawn from a well-shuffled pack of 52 cards. Find the probability that the card drawn is either red or a king.

(c) Two dice are thrown simultaneously. Find the probability that the total sum on the two faces is divisible by 3 or 4.

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101

MPUTER APPLICATIONS
ATION, 2015

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PAPER 101

(ELEMENTARY PHYSICS)

TIME ALLOWED : THREE HOURS

Maximum Marks— 100

Answers of all the questions (Objective as well as Descriptive) are to be given in the main answer-book only. Answers of objective type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer book. One complete question should not be answered at different places in the answer book.

No supplementary answer-book will be given to any candidate. Hence the candidates should write the answers precisely in the Main answer-book only.

PART I

Each question is of 2 marks.
Words limit for the answers is 40 words.

1. (a) What do you mean by quantization of charge?

(b) Define specific resistance of a material.

(c) What is the phenomenon of self-induction?

(d) What is the importance of lines of force?

(e) What are Universal Gates? Give examples.

(f) State De Morgan's theorems.

(g) What are decoders and encoders?

(h) What is parity?

(i) What do you mean by sequential logic?

(j) What are universal shift register and bi-directional shift register?

PART II

Each question is of 4 marks.
Words limit for the answers is 80 words.

11. Calculate the equivalent resistance when three conductors of resistances 2Ω, 4Ω and 5Ω are connected (i) in series, (ii) in parallel.

12. By giving three characteristics, discuss what are paramagnetic materials. Give examples of such materials.

13. What is bubbled OR gate? Explain by symbolic diagram and truth-table.

14. Explain BCD to decimal decoder.

15. What are Flip-Flops? Draw logic circuits of basic flip-flops using NAND and NOR gate.

PART III

Each question is of 12 marks.

16. Derive the formulae for the combination of capacitors:—

(a) When connected in series,

(b) When connected in parallel.

Or

(a) Discuss Coulomb's law.

(b) Two charges, each of 4 μC, are separated by a distance of 40 cm. Calculate the Coulombian force between them.

17. What is electromagnetic induction? State Faraday's laws of electromagnetic induction. Give the examples of devices based on the phenomenon of electromagnetic induction.

Or

State Biot-Savart Law. Derive the formula for the magnetic field, at the centre, due to a current carrying circular coil.

18. Write the various laws of Boolean Algebra.

Or

Describe SOP and POS form of logical expressions in detail with examples.

19. Explain 1 to 4 demultiplex with the help of truth-table and logic diagram.

Or

Explain 74180 parity checker with the help of its function table. Draw pinout diagram of 74180.

20. Explain synchronous counters in detail.

Or

Explain Master J-K Flip-Flop with the help of circuit diagram and truth-table.

This question paper contains 2 printed pages.

BC A-(Part-I)

135

Roll No. 249399

Comp.Org.

B.C.A. (PART-I) EXAMINATION - 2018

(Faculty of Science)

(Three year Scheme of 10+2+3 Pattern)

Paper - 135

COMPUTER ORGANIZATION

Time : Three Hours

Maximum Marks - 100

PART - I

Each question is of 2 marks. Words limit for the answer is 40 words.

1. (a) What do you mean by Von Neumann machine architecture?
   (b) What is the utility of system clock in computer architecture?
   (c) What is instruction cycle?
   (d) What do you mean by memory hierarchy?
   (e) What do you mean by I/O subsystem organization?
   (f) What are the system buses?
   (g) What are stack pointer and accumulator?
   (h) What are EPROM and EEPROM?
   (i) What is Microprocessor and Microcontroller?
   (j) Give the introduction of 8085. [10 x 2 = 20]

PART - II

Each question is of 4 marks. Words limit for the answer is 80 words.

2. Write about the Mother Board and Network Adaptor Card.
3. Discuss about the control unit and its functions.
4. Discuss the shift micro operations with suitable diagram.
5. What do you mean by Static and Dynamic RAM?
6. ...mon bus of 4 Registers of 4 bit each. [5 x 4 = ...]

PART - III

Each question is of 12 marks.

7. Discuss following points about the storage devices.
   (a) Random versus Sequential access.
   (b) Tracks and Sector
   (c) Optical Disk

OR

Discuss following
(a) Magnetic Tape
(b) TV Tuner card
(c) Input Devices [3 x 4 = 12]

8. Discuss about the Control Unit and its functionality in details. [6 + 6]

OR

Give the classification of computer systems and discuss the merit and demerit of each. [12]

9. Explain the Instruction cycle with the Fetch and Decode phase. [12]

OR

Discuss about the Register Transfer Language and Draw the block diagram of the hardware that implements the following statement. [6 + 6]

P: R2 ⇐ R1

10. Explain the cache memory and directmapping. [6 + 6]

OR

Explain virtual memory in detail. [12]

11. Draw the pin diagram of 8085 and discuss each pins in brief. [6 + 6]

OR

11. Discuss about the RISC and CISC Computer with merits and demerits. [6 + 6]

This question paper contains 2 printed pages.

B.C.A. (Part - I)

131 002191 Roll No. 249399

Ele. Phy.

B.C.A. (Part - I) EXAMINATION - 2018

(Faculty of Science)

(Three - Year Scheme of 10 + 2 + 3 Pattern)

Paper - 131

ELEMENTARY PHYSICS

Time Allowed : Three Hours

Maximum Marks - 100

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer- book. Write your roll numbers on question paper before start writing answers of questions.

PART - I

1. (a) If two capacitors of capacitance 2μF each are connected, then what is their resultant capacitance, if they are connected (i) in series (ii) in parallel

   (b) Write Kirchaff's current law.

   (c) Write one difference in between diamagnetic and paramagnetic materials.

   (d) Draw magnetic field lines of a bar magnet.

   (e) Write truth table for NOT gate.

   (f) Prove the Boolean theorem A+AB = A.

   (g) What is a multiplexer.

   (h) What does parity check mean?

   (i) What is a counter?

   (j) What a shift register? [10x2=20]

PART - II

2. State and prove Gauss' law of electrostatics.
3. Find expression for energy stored in an inductor.
4. Write D Morgan's theorem.

PART - III

5. Draw circuit diagram for 4 to 1 multiplexer. [5x4=20]

6. Write two differences in between combinational and sequential circuit.

PART - III

7. Find expression of resultant resistance for series and parallel combination of resistances. [6+6]

OR

Define electric potential. Find relation between electric field and potential. [4+8]

8. Find magnetic field inside a solenoid. [12]

OR

Write short note on -

(i) Biot Savart's law [6+6]

(ii) Faraday's law of electromagnetic induction

9. Prove that

(i) $(A+B) \cdot (\overline{A.B}) = A\overline{B} + B\overline{A}$ [6+6]

(ii) $\overline{AB+AC} + \overline{A}\,\overline{B}C = \overline{A} + \overline{B}\,\overline{C}$

OR

Find AND gate and OR gate using NAND gate. [6+6]

10. Design the combinational circuit for the given Boolean function:

$$f(A,B,C,D) = \Sigma\, m\,(1,3,5,6,9,11,13,15)$$ [12]

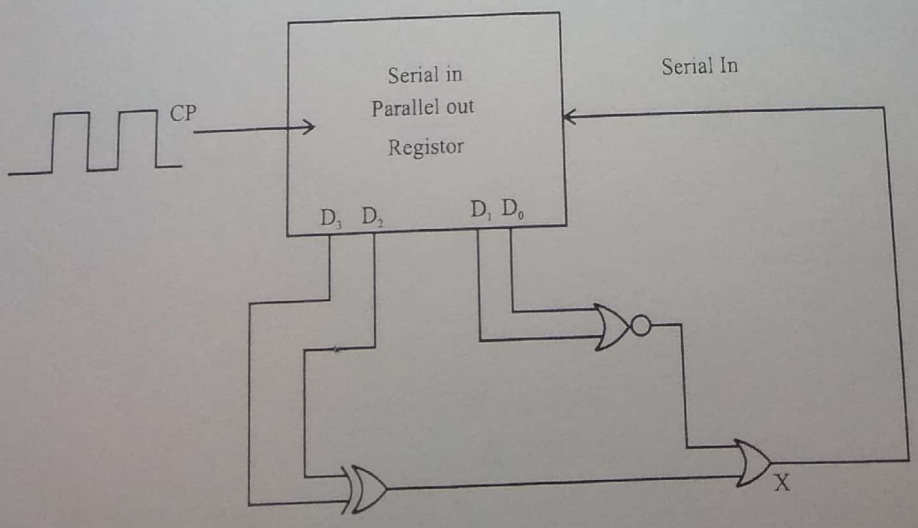
OR

Draw truth table and logic diagram of BCD to seven segment decoder. [6+6]

11. Draw the logic diagram of clocked RS flip flop and obtain its characteristic table. [6+6]

OR

Give the pulse train sequence which will be generated by the shift register circuit shown in figure below. Assume initial state of the circuit as 1111.



[12]

B.C.A.(PART-I) EXAMINATION- 2018

Paper -133

GENERAL ENGLISH

Time Allowed : Three hours

Maximum Marks : 100

PART-I

Each question is 2 marks. Word limit for each answer is 40 marks.

1. a) What is non-verbal communication?
   b) Frame 2 sentences each on the modal verbs 'May' and 'Could'?
   c) Write any two demerits of written communication.
   d) Name any 4 types of formal letters.
   e) What is an academic report?
   f) Frame any to sentences using conjunction.
   g) Write any two advantages of Oral communication.
   h) What are the two guidelines and interviewee should follow?
   i) Write any two barriers in Listening.
   j) Explain the importance of social media. 10x2=20

PART-II

Each question is 4 marks. Word limit for each answer is 80 marks.

2. Change the following sentences from active to passive (any 4):
   a) She bought me a gift.
   b) I am carrying 1000 rupees in my wallet.
   c) You have won the medal.
   d) John eats apple everyday.
   e) Mary is flying kite.
   f) He has built that castle.
3. Issue a memorandum to an employee for his bad conduct.
4. What is the process of communication.
5. Explain any two types of interview.
6. What is the scope of using Visual aids? 5x4=2

PART-III

Each question is of 12 marks. Draw neat and comprehensive sketches wherever necessary to clearly illustrate your answer.

7. Explain in details the 7 C's of communication and the barriers to communication.

OR

What is subordination and coordination? Explain with suitable examples.

8. Write the main objectives of written communication and also mention its merits and demerits.

OR

Write a letter to your Boss complaining about the mental harassment you are facing at your work place.

9. Write a detailed report on the Fresher Party held in your college.

OR

Put appropriate punctuation marks in the following sentences.

a) A grandparents job is easier than a parents

b) he neither smiled spoke nor looked at me

c) It was my aunt who took Peter to London yesterday not my father.

d) Sorry to disturb you could I speak to you for a moment

e) Is it any use expecting them to be on time

f) Having lost all my money I went home

This question paper contains 3 printed pages.

B.C.A.(Part - I) Roll No. 249399

132 002853 Bas. Math.

B.C.A. (Part - I) EXAMINATION - 2018

(Faculty of Science)

(Three - Year Scheme of 10 + 2 + 3 Pattern)

Paper - 132

BASIC MATHEMATICS

Time Allowed : Three Hours

Maximum Marks - 100

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer- book. Write your roll numbers on question paper before start writing answers of questions.

PART - I: **(Very Short Answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.**

PART - II: **(Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.**

PART - III: **(Long answer) consists of 5 questions of 12 marks each with internal choice.**

PART - I

[10x2=20]

1. Very Short Answers Type

(a) Define one to one function. (1)

(b) Define range of a function. (1)

(c) Define an m x n matrix (2)

(d) If $A=\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 1 \end{bmatrix}$ and $B=\begin{bmatrix} 0 & 1 & 2 \\ 2 & 1 & 0 \end{bmatrix}$; find AB (2)

(e) Write an equation of straight line in the intercept form. (1)

(f) Solve : $3x^2-5x+1=4x-5$ (2)

(g) Define standard deviation (1½)

(h) Define the line of regression of y on x. (1½)

(i) If ${}^{n}P_{3} = 210$, find n.

(j) If two dice are thrown what is the probability that the sum is greater than 8.

PART - II

2. Attempt all the following parts: [5x4=20]

(a) Show that the function $f: R \to R$ defined by $f(x) = 3x^3+5$ for all $x \in R$ is a bijection.

(b) Find the value of the following determinant by without expansion:

$$\begin{vmatrix} 13 & 16 & 19 \\ 14 & 17 & 20 \\ 15 & 18 & 21 \end{vmatrix}$$

(c) Prove that the following points are vertices of a right angle triangle:

(2, - 2), (-2,1) and (5, 2)

(d) Find the median of the following frequency distribution:

x :	1	2	3	4	5	6	7	8	9
f :	6	8	12	15	22	24	16	9	5

(e) In how many ways can 4 boys and 5 girls be seated in a row so that they are alternate?

PART - III

Attempt all the following five questions by taking any two parts from each question: [5x12=60]

3. (a) (i) Define Identity function and constant function with their graphs.

(ii) If $f: R \to R$ is a bijection such that $f(x) = 2x+7$. Find the inverse of f.

(b) If $\phi(x) = \log\left(\frac{1-x}{1+x}\right)$, show that $\phi(x) + \phi(y) = \phi\left(\frac{x+y}{1+xy}\right)$

(c) Let the function $f: R \to R$ and $g: R \to R$ be defined by

$F(x) = 2x$, $g(x) = x^2+2$, $\forall x \in R$. Find fog (2) and gog(1).

4. (a) Find the inverse of the matrix

$$A = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$$

(b) Solve the following equations by Cramer's rule:

$2x-y+3z = 9$, $x+y+z = 6$ and $x-y+z = 2$

(c) Prove that :

$$\begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix} = abc\left(1+\frac{1}{a}+\frac{1}{b}+\frac{1}{c}\right)$$

5. (a) Find the equation of straight line which passes through the point (2,3) and parallel to the line joining the points (1,2) and (7,3).

(b) Find the equation of a circle passing through a point (3,-1) and having its centre at the point of intersection of the lines $4x+y+1=0$ and $2x-y+5=0$.

(c) Find a quadratic equation whose roots are reciprocal to the roots of the quadratic equation $ax^2+bx+c=0$

6. (a) Calculate the median for the following distribution :

Class - interval	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40
Frequency	20	24	32	28	20	16	37	18

(b) If each variate value be multiplied by a constant quantity a, then prove that the variance is multiplied by a^2

(c) Find the Karl Pearson's coefficient of correlation between the ages of husband and wife at the time of their marriage :

Age of Husband : x	23	27	28	28	29	30	31	33	35	36
Age of Wife : y	18	20	22	27	21	29	27	29	28	29

7. (a) The odds against a certain event are 5 to 2 and the odds in favour of another event are 6 to 5; if the events are independent, find the probability of the happening of at least one of them.

(b) Four persons are choose at random from a group of 3 men , 2 women and 4 children. Find the probability that the group has exactly two children.

(c) If ${}^{m+n}P_4 \equiv 3024$ and ${}^{m-n}P_4 = 120$, find m and n.

$(m+n)(m+n-1)(m+n-2)(m+n-3) = 3024$

$(m-n)(m-n-1)(m-n-2)(m-n-3) = 120$

This question paper contains 2 printed pages.

BCA (Part-I)

134

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Roll No. 249392

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B.C.A. (PART-I) EXAMINATION - 2018

(Faculty of Science)

(Three year Scheme of 10+2+3 Pattern)

Paper - 134

PRINCIPLES OF PROGRAMMING LANGUAGE (THROUGH 'C')

Time Allowed : Three Hours

Maximum Marks - 100

PART I : (Very short answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.

PART II : (Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.

PART III : (Long answer) consists of 5 questions of 12 marks each with internal choice.

PART - I

1. Attempt all questions. Each question carries 2 marks. [10 x 2 = 20]

   (a) What is Pseudo Code?

   (b) Explain Programming Domains.

   (c) What is operator precedence?

   (d) What are the different methods to declare a constant in 'c'? Give example.

   (e) What is the difference between a do-while loop and a while loop?

   (f) What is the difference between a structure and a Union?

   (g) What is a NULL pointer? Give example.

   (h) What is enumerated data type? Give an example.

   (i) What is the difference between actual and formal parameters?

   (j) How do we calculate the size of a union in C?

PART - II

2. Attempt all questions. Each question carries 4 marks. [5 x 4 = 20]

   (a) Draw a flowchart to calculate factorial of a given integer number.

   (b) Describe the skeleton of a 'C' program.

   (c) Write a program to read N values in an array and then find highest value.

   (d) Explain scope, visibility and lifetime of a variable in context to functions.

(e) Discuss the purpose of the following library functions :
(i) fseek ()
(ii) rewind ()
(iii) feof ()
(iv) ftell

PART - III

3. (a) Write pseudo code to find the sum of first 100 even numbers. [12]

OR

(b) Write an algorithm to check whether a number entered by user is prime or not. [12]

4. (a) Explain different data types available in 'C'. [12]

OR

(b) Write a program to input basic salary of an employee and calculate its gross salary according to the following :
(i) Basic Salary <=10000 : HRA=20%, DA=80%
(ii) Basic Salary <=20000 : HRA=25%, DA=90%
(iii) Basic Salary >=20000 : HRA=30%, DA=95% [12]

5. (a) Write a 'C' program to find the length of a string without using built-in functions. [12]

OR

(b) Discuss the following :
(i) Declaration of one dimensional and two dimensional arrays.
(ii) Initialization of one dimensional and two dimensional arrays.
(iii) Accessing of elements from one dimensional and two dimensional arrays.
(iv) Why array name is called a constant pointer? [3 x 4 = 12]

6. (a) What do you mean by Recursion? Write a recursive program in 'C' to print all the elements of an array. [2 + 10 = 12]

OR

(b) What are Pointers? How a function can be called by using a pointer to it? Explain with an example. [2 + 10 = 12]

7. (a) Write a program in C to copy content of a file to another file. [12]

OR

(b) Explain the following :
(i) Declaring a structure
(ii) Accessing members of a structure using pointer
(iii) Self-referential structure
(iv) Difference between a structure and a union [3 x 4 = 12]

This question paper contains 2 printed pages.

B.C.A.(Part - I)

136

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B.C.A. (PART I) EXAMINATION - 2018

(FACULTY OF SCIENCE)

(Three - Year Scheme of 10+2+3 Pattern)

Paper - 136

(Office Management Tools)

Time Allowed : Three Hours

Maximum Marks - 100

Question paper consists of three Parts.

All THREE Parts are compulsory.

PART - I: (Very Short Answer) consists of 10 questions of two marks each with two questions from each unit. Maximum limit for each question is up to 40 words.

PART - II: (Short answer) consists of 5 questions of four marks each with one question from each unit. Maximum limit for each question is up to 80 words.

PART - III: (Long answer) consists of 5 questions of twelve marks each with one question from each unit with internal choice.

PART - I

1. a. Explain "Attrib" DOS Command with syntax.
   b. What do mean by booting sequence? Explain.
   c. What do you mean by Thesaurus? Explain.
   d. How to set a page into two columns? Write steps.
   e. What is difference between work-book and work-sheet? Explain
   f. What is short cut key to select entire column? Explain.
   g. Which Power Point feature allows the user to create a simple presentation quickly? Explain.
   h. How to edit an embedded organization chart object? Write steps.
   i. What are the different views to display a table? Explain.
   j. How duplicate Query wizard is helpful?

PART - II

Write five comparisons between Data and Information

3. Explain the use of following commands in MS - Word using suitable examples :-
   a. Format Painter
   b. Watermark
4. How to work with formulas in excel? Explain.
5. What is a Power Point presentation? Describe Custom Animation.
6. What are the advantages of Database Management System over File System? Explain.

PART - III

1. Define OS. Write basic functions of OS. Compare NTFS and FAT on the basis of various features.

OR

Write notes on the following DOS commands :-
   a. COPY CON
   b. XCOPY
   c. MOVE
   d. CHKDSK
   e. FC
   f. TREE

2. What is Mail-Merge? What are the advantages of mail-merge? Write steps to create Mail - Merge.

OR

How to convert a word document into Word Perfect, Rich text and Text Format? Write all steps.

3. Write notes on :-
   a. Find & Select
   b. Conditional Formatting
   c. Trace Precedents and Trace Dependents
   d. Cell Styles

OR

What is a macro? What are the importances of macros in Excel? Write steps to create a macro.

4. Write notes on:
   1. Transition in Power Point
   2. Action Buttons

OR

What is slide master and slide layout in Power Point? Explain in detail.

5. What do you mean by DBMS? Explain different types of DBMS in detail.

OR

Explain reports in MS-Access. Explain two methods to create reports in MS-Access.

This question paper contains 3 printed pages]

Sl.No. 0315

B.C.A. (Part - I)

B.C.A. (Part - I) EXAMINATION, 2017
(Faculty of Science)
(Three - Year Scheme of 10 +2 + 3 Pattern)
Paper - 131
ELEMENTARY PHYSICS

Time : Three Hours] *[Maximum Marks : 100*

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

PART - I

Each question is of 2 marks.
Words limit for the answers is 40 words.

1. a) Define Ohm's law.

   b) What is Capacitor?

   c) What is Magnetic field?

   d) What is electromagnetic induction?

   e) What is Logic Gates?

   f) Define de Morgan's theorems.

   g) What is Multiplexer?

   h) Define Combinational Circuits.

   i) What is RS flip flop.

   j) Draw the pinout diagram for IC 7496.

[10 × 2 = 20]

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PART - II

Each question is of 4 marks

Word limit for the answers is 80 words.

2. Find the charge density and the total charge of the system which gives rise to the electric field.

$$E(x) = \frac{qe^{-ar}}{r^3}\hat{x}.$$

3. A long Solenoid of length L having N turns carries a current I. Deduce the expression for the magnetic field in the interior of the solenoid.

4. Simplify the following expression into sum of products using karnaugh map

$$F(A, B, C, D) = \Sigma(1, 3, 4, 5, 6, 7, 9, 12, 13)$$

5. Design a 32:1 multiplexer using tow 16:1 multiplexers and a 2 : 1 multiplexer.

6. What is a filp-flop? What is the difference between a latch and a flip-flop? List out of application of flip-flop?

[5 × 4 = 20]

PART - III

Each question is of 12 marks

7. Write short note on:

a) Kirchoff's current law.

b) Kirchoff's voltage law.

[6 + 6 =12]

OR

Write short note on:

a) Coulomb's Law.

b) Gauss' law of electrostatics.

[6 + 6 =12]

8. Using Biot - Savart's law, derive the expression for the magnetic field in the vector form at a point on the axis of a circular current loop. 131

OR

Write short note on: [12]

a) LR Circuits.

b) Magnetic flux.

[6 + 6 =12]

9. Simplify and draw the logic diagram for the given expression

$$F = \overline{ABC} + \overline{ABC} + \bar{A}B\bar{C} + A\overline{BC} + A\bar{B}C$$

[12]

OR

Minimize the logic function

$Y(A, B, C, D) = \Sigma\, m(0,1,2,3,5,7,8,9,11,14)$. Use karnaugh map. Draw logic circuit for the simplified function.

[12]

10. Design a 4 to 1 multiplexer by using the three variable function given by $F(A,B,C) = \Sigma m(1,3,5,6)$.

[12]

OR

A 2-digit BCD D/A converter is a weighted resistor type with $E_R = 1$ volt, with $R = 1M\Omega$, $R_f = 10K\Omega$. Find resolution in percent and volts.

[12]

11. Using D flip flops and waveforms explain the working of a 4-bit SISO shift register.

[12]

OR

With relevant diagram explain the working of master - slave JK flip flop.

[12]

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Sl.No. 0195

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132

B.C.A. (Part - I)

B.C.A. (Part - I) EXAMINATION, 2017
(Faculty of Science)
(Three - Year Scheme of 10 +2 + 3 Pattern)
Paper - 132
BASIC MATHEMATICS

Time : Three Hours] ***[Maximum Marks : 100***

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

PART - I :	***(Very Short Answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.***
PART - II:	***(Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.***
PART - III:	***(Long answer) consists of 5 questions of 12 marks each with internal choice.***

PART - I

1. Very Short Answer Type

a) Define Invertible functions.

b) Define range of a function.

c) Define transpose of a matrix.

d) What Difference between eigen values and eigen vectors.

e) Write standard equation of a circle.

f) Write Shridharacharya's formula.

g) Define Dispersion.

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h) Write Relation between Mean, Mode, Median.

i) Define Permutations.

j) Write Multiplication Law of probability.

PART - II

2. a) Prove that if $f: X \to Y$ and $g: Y \to Z$ are one-one function, then gof is also a one-one functions.

b) If $A = \begin{bmatrix} 1 & 3 & 2 \\ 4 & 2 & 5 \end{bmatrix}_{2\times3}$, $B = \begin{bmatrix} -1 & 0 & 3 \\ -2 & 5 & 1 \end{bmatrix}_{2\times3}$, find the Matrix D such that $A + 2B - D = 0$.

c) Show that the point A(0, 1), B (1, 4), C(4, 3) and D(3, 0) are the vertices of a square.

d) Calculate the median for the following frequency distribution.

x_i	1	2	3	4	5	6	7	8	9
f_i	8	10	11	16	20	25	15	9	6

e) Prove that

$${}^nP_{n-1} = {}^nP_n.$$

PART - III

3. a) If $f: R \to R$ and $g: R \to R$ are the function where $f(x) = 2x + 3$ and $g(x) = x^2 - 1$ for all $x \in R$, then find $(f + g)(x)$, $(fg)(x)$, $(f + g)(-3)$ and $(fg)(5)$.

b) Define equal functions give an example of two functions that are equal.

OR

a) Show that the function $f: R \to R$, where $f(x) = x^3 + x$, for all $x \in R$ is a bijection.

b) If $f: R \to R$ where $f(x) = 2x - 3$ for all $x \in R$ then prove that f is bijective. Also find f^{-1}.

4. a) If $A = \begin{bmatrix} \cos\alpha & \sin\alpha \\ -\sin\alpha & ces\alpha \end{bmatrix}$, then verify that $A^T A = I_2$.

b) If $A = \begin{bmatrix} 4 & 2 \\ -1 & 1 \end{bmatrix}$, find $(A - 2I)(A - 3I)$.

OR

c) Prove that $\begin{vmatrix} x & y & z \\ x^2 & y^2 & z^2 \\ x^3 & y^3 & z^3 \end{vmatrix} = xyz\,(x-y)\,(y-z)\,(z-x)$.

d) Solve the following system of equations by Cramer's rule

$x + y + z = 11$

$2x - 6y - z = 0$

$3x + 4y + 2z = 0$.

5. a) Find the Locus of a point such that the sum of its distances from the points (2, 0) and (–2, 0) is always 6.

b) Derive the slope - Intercept form of the equation of straight line.

OR

a) Derive the normal form of the equation of straight line.

b) Prove that the following straight lines are concurrent.

$3x - 5y - 11 = 0,\ 5x + 3y - 7 = 0,\ x + 2y = 0$.

6. a) Calculate the mean and the standard deviation of first n natural numbers.

b) Calculate the mean, variance and standard deviation for the following frequency distribution:

Marks	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No.of students (fi)	3	6	13	15	14	5	4

OR

The following marks were obtained by a class of students in Mathematics (out of 100).

Paper - I	45	55	56	58	60	65	68	70	75	80	85
Paper - II	56	50	48	60	62	64	65	70	74	82	90

Compute the correlation coefficient for the above data. Find also the equations of the lines of regression.

7. a) Find the value of n if ${}^{7}P_{n} = 2.\ {}^{7}P_{n-2}$.

b) Let A and B be two events such that $P(\bar{A}) = 2/3$ and $P(A \cup B) = \frac{1}{2}$. Find $P(\bar{A} \cap B)$.

OR

a) To prove that $C(n, r) = C(n-1, r-1) + C(n-1, r)$, where $0 < r < n$.

b) Find the probability of getting a total of at least 6 in a simultaneous throw of three dice.

Sl.No. 0195

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Roll No. .....

Sl.No. 0252

136

B.C.A. (Part - I)

B.C.A. (Part - I) EXAMINATION, 2017

(Faculty of Science)

(Three-year scheme of 10 + 2 + 3 Pattern)

Paper - 136

OFFICE MANAGEMENT TOOLS

Time : Three Hours] ***[Maximum Marks : 100***

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

Question paper consists of three Parts.
All THREE Parts are compulsory.

Part I: *(Very short Answer) consists of 10 questions of two marks each with two questions from each unit. Maximum limit for each question is up to 40 words.*

Part II: *(Short Answer) consists of 5 quesitons of four marks each with one question from each unit. Maximum limit for each question is up to 80 words.*

Part III: *(Long answer) consists of 5 questions of twelve marks each with one question from each unit with internal choice.*

PART - I

1. a) Explain any 5 important features of operating system.
   b) Differentiate Internal and External DOS command.
   c) Define status Bar in MS - Word.
   d) What do you mean by show/Hide Button in MS-Word.
   e) What do you mean by spreadsheet?
   f) What is the use of set print Area in MS-Excel?
   g) Explain the use of slide sorter in MS-Powerpoint.
   h) Why we use master slides in Powerpoint?
   i) Define Icon and its use.
   j) What is the degree of a relation?

[10 × 2 = 20]

P.T.O.

PART - II

[5 × 4 = 20]

Attempt all questions.

Each questions carries 4 marks.

2. Write short notes on the following:
   a) Booting process.
   b) Text editor.
   c) Windows Explorer.
   d) Kernell and shell.

3. Explain the use of following commands in MS-Word.
   a) Format painter.
   b) Title Bar and scroll Bar.
   c) Macro.
   d) Line spacing.

4. Explain the Absolute, Relative and mixed Reference in MS-Excel.

5. What is the use of conditional formatting in MS-Excel, explain with suitable example.

6. How many kinds of views are available to create a Database in MS - Access, explain with suitable example.

PART - III

Attempt all questions.

Each questions carries 12 marks.

7. Write short notes on the following (any three)
   a) Disk Defregmentation. [4]
   b) Dettree, X copy command. [4]
   c) System Tray in Task Bar. [4]
   d) Define FAT (File Allocation Table) [4]

OR

a) Why we say that operating system works as a Resource manager, explain in detail. 136

b) Define Batch Processing, Real time operating system. [7]

[5]

8. a) Explain the Utility of Mail Merge. [6]

b) Explain split table, Merge Table, Cell. [6]

OR

a) Define some of the commands/options available in Print Dialogue Box. [6]

b) Explain super script, sub-script, sorting & Print layout option in MS-Word. [6]

9. a) Pivot table in MS - Excel? [6]

b) Hlookup and Vlookup functions in Excel? [6]

OR

a) Explain any 4 (four) Text function, with example. [6]

b) What is the use of filter in Excel. [6]

10. a) How many ways we use the slide show in Powerpoint. [6]

b) What is Rehearse Timing in Powerpoint. [6]

OR

a) What do you mean by Transition in Powerpoint? [6]

b) Explain the kinds of Presentation views are available in Power point. [6]

11. Explain any 5 advantages and disadvantages of Database Management system, in detail. [12]

OR

a) Define Database, database management system and its functions. [6]

b) What is form wizards in Access. [6]

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Sl.No. 0301

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133

B.C.A. (Part - I)

B.C.A. (Part - I) EXAMINATION, 2017

(Faculty of Science)

(Three Year Scheme of 10 +2 + 3 Pattern)

Paper - 133

GENERAL ENGLISH

Time : Three Hours] ***[Maximum Marks : 100***

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

PART - I

Each question is of 2 marks.

Words limit for the answers is 40 words.

1. a) Define the term 'Punctuation'.

   b) What is meant by 'barriers in communication'?

   c) How do you define the business letter?

   d) Write down the three main demerits of written communication.

   e) What are the main types of report?

   f) Explain the meaning of electronic media.

   g) Through light on the limitations of oral communication.

   h) Explain the essentials of an interview.

   i) What are the main advantage of project presentation?

   j) What are the main principles of good listening?

[10 × 2 = 20]

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PART - II

Each question is of 4 marks

Words limit for the answers is 80 words.

2. Explain the uses of any four models with suitable examples.

3. What do you mean by formal communication? Explain in detail.

4. Through some light on the objectives of written communication.

5. Comment on the classifications of the Good News and Bad News letters.

6. What is an executive summary? How its different from an abstract?

[5 × 4 = 20]

PART - III

Each question is of 12 marks

Draw neat and comprehensive sketches wherever necessary to clearly illustrate your answer.

7. While explaining the flow of communication, write down the essential and importance of good business communication in detail.

OR

Describe the advantage and disadvantage of formal communication.

8. Write down the rules in detail for subject verb agreement.

OR

What is conjunction? Explain the types of Conjunction.

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9. What are the merits and demerits of report? Discuss in detail with suitable examples. 133

OR

Describe all the media used for written communication.

10. What do you mean by visual presentation? Give suggestions to create a good visual presentation.

OR

Explain how to design an effective resume. Provide your answer with suitable example.

11. While explaining the guidelines for the interviewee, describe the various types of interview.

OR

Comment on the guideline for effective memorandum.

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Sl.No. 0209

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B.C.A. (Part - I)

B.C.A. (Part - I) EXAMINATION, 2017
(Faculty of Science)
(Three - Year Scheme of 10 +2 + 3 Pattern)
Paper - 135
COMPUTER ORGANIZATION

Time : Three Hours] *[Maximum Marks : 100*

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

PART - I

Each question is of 2 marks.

Words limit for the answers is 40 words.

1. a) What was the first generation of computer?
   b) What is cache memory?
   c) What do you mean by data path?
   d) What are the major parts of a central processing unit?
   e) What is the function of program counter.
   f) Write the basic instruction processing steps?
   g) What are the inputs of a sequence computer (SC)?
   h) What is instruction cycle and opcode fetch?
   i) What is the full form of EEPROM?
   j) Write the name of auxiliary storage devices.

[10 × 2 = 20]

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R-681

...What are the causes of charging depreciation?

PART - II

Each question is of 4 marks

Words limit for the answers is 80 words.

2. Write short note on historical evolution of the computers.

3. Write the operations of control unit.

4. Write the features of pentium microprocessor.

5. Write the functions of data transfer instruction.

6. Write the major difference between microprocessor and microcontroller.

[5 × 4 = 20]

PART - III

Each question is of 12 marks

7. What is a Von-Neumann architecture of a computer? Explain the functions of different units used in it. [12]

OR

Explain the various types of output devices of computer. [12]

8. Draw the Basic building block diagram of computer system. Explain its blocks in brief. [12]

OR

Write the classification of computers. Compare mini computers, micro computers and mainframe computers. [12]

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9. What do you mean by 'system buses'? Draw the common bus system diagram and explain it. [12]

OR

Explain the phases of instruction cycle of the computer system. [12]

10. What do you mean by 'registers'? Write the name of basic registers they are used in computer system. Explain any four registers. [12]

OR

Draw the diagram for memory hierarchy in a computer system. Discuss the magnetic disk in detail. [12]

11. Explain the 8085 microprocessor with block diagram. [12]

OR

Explain the characteristics of RISC and CISC computers. [12]

This question paper contains 3 printed pages]

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Roll No. 274095

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B.C.A. (Part - I)

B.C.A. (Part - I) EXAMINATION, 2017

(Faculty of Science)

(Three - Year Scheme of 10 +2 + 3 Pattern)

Paper - 134

PRINCIPLES OF PROGRAMMING LANGUAGE (THROUGH 'C')

Time : Three Hours] *[Maximum Marks : 100*

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

PART - I :	***(Very Short Answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.***
PART - II:	***(Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.***
PART - III:	***(Long answer) consists of 5 questions of 12 marks each with internal choice.***

PART - I

Attempt all Questions

Each questions carries 2 marks [10 × 2 = 20]

1. a) What is algorithm?
   b) Give flow chart symbols for I/O, processing terminal and flow lines.
   c) How do we create constants in 'C'? Give syntax.
   d) What are local variables?
   e) Discuss purpose and syntax of goto statement.
   f) How do we read and write strings in 'C' Explain.
   g) What are formal parameters?

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h) Define pointers.

i) How do we create structures in 'C'? Explain.

j) Differentiate between fprintf ( ) and printf( ).

PART - II

Attempt all questions

Each questions carries 4 marks [5 × 4 = 20]

2. a) Draw a flow chart to find out sum and average of any 3 nos.

b) Discuss any 2 (two) data types of 'C' with suitable examples.

c) Differentiate between break and continue statements with the help of appropriate example(s).

d) Differentiate between call by value and call by reference.

e) Discuss the purpose of following functions:

i) putch ( )

ii) puts ( )

iii) putchar ( )

iv) scanf ( )

PART - III

3. Discuss machine level, Assembly and high level languages is detail. [12]

OR

Write pseudocodes to find out:

a) factorial of a given no.

b) sum of 1st 10 natural no's.

[6 + 6 = 12]

4. Discuss the various operators of 'C'. [12]

OR

Write a program in 'C' to findout grade of a student based on the following criterias:

a) Percentage is < = 40; grade is 'D'.

b) Percentage is > = 40 but < 50; grade is 'C'.

c) Percentage is > = 50 but < 60; grade is 'B'.

d) Percentage is > = 60 but < 75 ; grade is 'A'.

e) Percentage is > = 75 grade is 'A-'.

5. Explain the following functions:
   a) strcat ( )
   b) strcmp ( )
   c) strcmpi ( )
   d) strlen ( )
   e) strstr ( )
   f) strchr( )

[6 × 2 =12]

OR

Discuss single Dimensional and double Dimensional arrays of 'C' in breif. [12]

6. What is recursion? Why do we use recursion? Explain Also write a code to print fibonacci series with recursive function. [12]

OR

Write a 'C' program that uses of function to search a no with in an array. [12]

7. Explain the following:
   a) File modes.
   b) Steps of file handling in 'C'.
   c) Stream I/O model.

[3 × 4 = 12]

OR

Create a structure containing five members : rollno, name - of- student, marks1, marks2 & marks3. Write a program to access those members using structure variable or pointer. [12]