Test Booklet Code & Serial No.
प्रश्नपत्रिका कोड व क्रमांक

A

Paper-III

COMPUTER SCIENCE AND APPLICATION

Signature and Name of Invigilator

1. (Signature) .....

(Name) .....

2. (Signature) .....

(Name) .....

Seat No. | | | | | | |

(In figures as in Admit Card)

Seat No. .....

(In words)

OMR Sheet No. | | | | | | |

(To be filled by the Candidate)

APR - 37317

Time Allowed : 2½ Hours] **[Maximum Marks : 150**

Number of Pages in this Booklet : **24**

Number of Questions in this Booklet : **75**

Instructions for the Candidates

1. Write your Seat No. and OMR Sheet No. in the space provided on the top of this page.
2. This paper consists of **75** objective type questions. Each question will carry *two* marks. *All* questions of Paper-III will be compulsory, covering entire syllabus (including all electives, without options).
3. At the commencement of examination, the question booklet will be given to the student. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as follows :
   (*i*) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal or open booklet.
   (*ii*) **Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to missing pages/ questions or questions repeated or not in serial order or any other discrepancy should not be accepted and correct booklet should be obtained from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given. The same may please be noted.**
   (*iii*) After this verification is over, the OMR Sheet Number should be entered on this Test Booklet.
4. Each question has four alternative responses marked (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.
   Example : where (C) is the correct response.

   (A) (B) ● (D)

5. Your responses to the items are to be indicated in the **OMR Sheet given inside the Booklet only.** If you mark at any place other than in the circle in the OMR Sheet, it will not be evaluated.
6. Read instructions given inside carefully.
7. Rough Work is to be done at the end of this booklet.
8. If you write your Name, Seat Number, Phone Number or put any mark on any part of the OMR Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, you will render yourself liable to disqualification.
9. You have to return original OMR Sheet to the invigilator at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. You are, however, allowed to carry the Test Booklet and duplicate copy of OMR Sheet on conclusion of examination.
10. **Use only Blue/Black Ball point pen.**
11. **Use of any calculator or log table, etc., is prohibited.**
12. **There is no negative marking for incorrect answers.**

विद्यार्थ्यांसाठी महत्त्वाच्या सूचना

1. परिक्षार्थींनी आपला आसन क्रमांक या पृष्ठावरील वरच्या कोपऱ्यात लिहावा. तसेच आपणांस दिलेल्या उत्तरपत्रिकेचा क्रमांक त्याखाली लिहावा.
2. सदर प्रश्नपत्रिकेत **75** बहुपर्यायी प्रश्न आहेत. प्रत्येक प्रश्नास **दोन** गुण आहेत. या प्रश्नपत्रिकेतील **सर्व** प्रश्न सोडविणे अनिवार्य आहे. सदरचे प्रश्न हे या विषयाच्या संपूर्ण अभ्यासक्रमावर आधारित आहेत.
3. परीक्षा सुरू झाल्यावर विद्यार्थ्याला प्रश्नपत्रिका दिली जाईल. सुरुवातीच्या 5 मिनीटांमध्ये आपण सदर प्रश्नपत्रिका उघडून खालील बाबी अवश्य तपासून पहाव्यात.
   (*i*) प्रश्नपत्रिका उघडण्यासाठी प्रश्नपत्रिकेवर लावलेले सील उघडावे. सील नसलेली किंवा सील उघडलेली प्रश्नपत्रिका स्विकारू नये.
   (*ii*) **पहिल्या पृष्ठावर नमूद केल्याप्रमाणे प्रश्नपत्रिकेची एकूण पृष्ठे तसेच प्रश्नपत्रिकेतील एकूण प्रश्नांची संख्या पडताळून पहावी. पृष्ठे कमी असलेली/कमी प्रश्न असलेली/प्रश्नांचा चुकीचा क्रम असलेली किंवा इतर त्रुटी असलेली सदोष प्रश्नपत्रिका सुरुवातीच्या 5 मिनिटातच पर्यवेक्षकाला परत देऊन दुसरी प्रश्नपत्रिका मागवून घ्यावी. त्यानंतर प्रश्नपत्रिका बदलून मिळणार नाही तसेच वेळही वाढवून मिळणार नाही याची कृपया विद्यार्थ्यांनी नोंद घ्यावी.**
   (*iii*) वरीलप्रमाणे सर्व पडताळून पहिल्यानंतरच प्रश्नपत्रिकेवर ओ.एम.आर. उत्तरपत्रिकेचा नंबर लिहावा.
4. प्रत्येक प्रश्नासाठी (A), (B), (C) आणि (D) अशी चार विकल्प उत्तरे दिली आहेत. त्यातील योग्य उत्तराचा रकाना खाली दर्शविल्याप्रमाणे ठळकपणे काळा/निळा करावा.
   उदा. : जर (C) हे योग्य उत्तर असेल तर.

   (A) (B) ● (D)

5. या प्रश्नपत्रिकेतील प्रश्नांची उत्तरे **ओ.एम.आर. उत्तरपत्रिकेतच दर्शवावीत.** इतर ठिकाणी लिहीलेली उत्तरे तपासली जाणार नाहीत.
6. आत दिलेल्या सूचना काळजीपूर्वक वाचाव्यात.
7. प्रश्नपत्रिकेच्या शेवटी जोडलेल्या कोऱ्या पानावरच कच्चे काम करावे.
8. जर आपण ओ.एम.आर. वर नमूद केलेल्या ठिकाणा व्यतिरीक्त इतर कोठेही नाव, आसन क्रमांक, फोन नंबर किंवा ओळख पटेल अशी कोणतीही खूण केलेली आढळून आल्यास अथवा असभ्य भाषेचा वापर किंवा इतर गैरमार्गाचा अवलंब केल्यास विद्यार्थ्याला परीक्षेस अपात्र ठरविण्यात येईल.
9. परीक्षा संपल्यानंतर विद्यार्थ्याने मूळ ओ.एम.आर. उत्तरपत्रिका पर्यवेक्षकांकडे परत करणे आवश्यक आहे. तथापी, प्रश्नपत्रिका व ओ.एम.आर. उत्तरपत्रिकेची द्वितीय प्रत आपल्याबरोबर नेण्यास विद्यार्थ्यांना परवानगी आहे.
10. **फक्त निळ्या किंवा काळ्या बॉल पेनचाच वापर करावा.**
11. **कॅलक्युलेटर किंवा लॉग टेबल वापरण्यास परवानगी नाही.**
12. **चुकीच्या उत्तरासाठी गुण कपात केली जाणार नाही.**

Computer Science and Application
Paper III

Time Allowed : 2½ Hours] **[Maximum Marks : 150**

Note : This Paper contains **Seventy Five (75)** multiple choice questions, each question carrying **Two (2)** marks. Attempt *All* questions.

1. The advantages of integrated circuits over a discrete device circuit due to their following characteristics :

   (A) Smaller size

   (B) Lower cost

   (C) Higher reliability

   (D) All of the above

2. The cyclic codes are used when it is required for :

   (A) Data transfer

   (B) Arithmetic and logical computation

   (C) Continuously varying signal representation

   (D) Counting the number of bits

3. A microprocessor with 12 address lines is capable of addressing up to :

   (A) 4096 Locations

   (B) 1024 Locations

   (C) 64K Locations

   (D) 2048 Locations

4. When the RESET is performed in Intel 8085 microprocessor, the first operation is :

   (A) Stock initialization

   (B) Instruction fetch from the location 2000H

   (C) Instruction fetch from the location 0000H

   (D) Memory read from location 0000H

5. The overflow flag is set in 8086 microprocessor when .....

(A) The sum is more than 16 bits

(B) Carry and sign flags are set

(C) Signed number go out of their range after arithmetic operation

(D) None of the above

6. One of the following is data security threat :

(A) updation or deletion of data

(B) fraudulent manipulation of data

(C) hardware failure

(D) privacy invasion

7. Consider the situation that the transaction 'P' holds shared key lock X. Also, other transaction 'Q' requests for shared key lock X, then :

(A) request will be immediately granted

(B) the deadlock situation is created

(C) request will be rejected after some time

(D) request will be granted at it is released by P.

8. In an oracle, which trigger type would be fired during instance start-up :

(A) database event

(B) user event

(C) file event

(D) record event

9. The component of the oracle that contains the memory structure and background process :

(A) database

(B) database file

(C) instance

(D) log file

10. The redo log files are used for :

(A) shut down

(B) instance recovery

(C) archiving

(D) instance start up

11. Which of the following statements is *false* for random scan display systems ?

(A) They can display realistic shaded scenes

(B) They are designed for line drawing applications

(C) Pen plotter is an example of random scan hard-copy device

(D) In random scan display CRT the electronic beam directed only to the part of the screen where a picture is to be drawn.

12. The geometric entities like points, lines, curves in computer graphics are called as .....

(A) graphic objects

(B) basic objects

(C) control objects

(D) primitives

13. Z-buffer or depth-buffer algorithm is used for determining.....

(A) Visible surfaces

(B) Shading

(C) Shadows

(D) Transparency

14. If the region code of a point is 1001, then the point is in the ..... region of the window.

(A) top right

(B) top left

(C) bottom right

(D) bottom left

15. The method for constructive solid geometry operations is .....

(A) ray casting

(B) ray tracing

(C) beam penetration

(D) ray sorting

16. Two processors running, one is user process and other one is operating system process, latter is called :

(A) Kernel process

(B) Supervisor process

(C) System process

(D) Both (A) and (B)

17. ..... and ..... are recommended functions to be defined in user programme specifications of Unix Systems.

(A) return.yyparse( ) and fprint( )

(B) main( ) and yyerror( )

(C) yywrap( ) and yyerror( )

(D) main( ) and fprint( )

18. Which of the following regular expression identity is *true* ?

(A) r (*) = r*

(B) (r* s*)* = (r + s)*

(C) (r + s)* = r* + s*

(D) r* s* = r* + s*

19. For the given context free grammar G, give three strings that are in L(G).

$R \rightarrow X\ R\ X \mid S$

$S \rightarrow a\ T\ b \mid b\ T\ a$

$T \rightarrow X\ T\ X \mid X \mid \in$

$X \rightarrow a \mid b$

(A) bba, ab, ab

(B) ab, ba, aab

(C) ba, ba, aab

(D) ab, ab, abb

20. The coroutine is a ..... that generalize subroutines to allow multiple entry points for suspending and resuming execution at certain locations.

(A) Computer programme

(B) Computational method

(C) Computer algorithm

(D) Computer software

21. The maximum window size for data transmission using selective repeat protocol with 8-bit frame sequence number is :

(A) 2^8

(B) 2^7

(C) 2^8-1

(D) 2^6

22. Suppose class based addressing scheme is used in a University Computer Center. The class C address with subnet mark is adopted for network is 255.255.255.254, then how many subnets and how many systems per subnets are possible ?

(A) 64, 2

(B) 1, 254

(C) 0, 0

(D) 128, 0

23. The Denial of Service (DOS) is attacked on .....

(A) Authentication

(B) Availability

(C) Confidentiality

(D) Integrity

24. The digital signal is to be designed to permit 160 kbps data rate for a bandwidth of 20 kHz. What will be (*i*) number of levels and (*ii*) S/N ratio ?

(A) 7, 28.8 dB

(B) 6, 27.8 dB

(C) 5, 29.8 dB

(D) 4, 24.07 dB

25. The difference between congestion control and flow control is..... :

(A) Flow control is local phenomenon while congestion control is global phenomenon.

(B) Flow control uses timers while congestion control uses retransmissions.

(C) Flow control uses NACs while congestion control uses ACKs.

(D) Option (B) and (C) only

26. For sorting ..... algorithm scans the list by swapping the entries whenever pair of adjacent keys are out of desired order.

(A) Quick sort

(B) Shell sort

(C) Insertion sort

(D) Bubble sort

27. For the following :

(*i*) To solve a problem linear algorithm must perform faster than quadratic algorithm

(*ii*) An algorithm with worst case time behaviour = $3n$ takes 30 operations for every input of size n = 10

(A) Both (*i*) and (*ii*) are false

(B) Both (*i*) and (*ii*) are true

(C) (*i*) is false and (*ii*) is true

(D) (*i*) is true and (*ii*) is false

28. The best/worst case time complexity of quick sort is :

(A) $O(n)/O(n^2)$

(B) $O(n)/O(n \log n)$

(C) $O(n \log n)/O(n^2)$

(D) $O(n \log n)/O(n \log n)$

29. For job sequence problem :

Item :	1	2	3	4	5	6	7
Profit :	3	5	20	18	1	6	30
deadline :	1	3	4	3	2	1	2

Which is the optimal value ?

(A) (1, 5, 6, 4)

(B) (2, 3, 1, 7)

(C) (7, 6, 4, 3)

(D) (1, 2, 3, 4)

30. For the following problem statements :

(*i*) 3 COL : Given a graph G, can G be painted with 3 colours.

(*ii*) COLO : Given a graph G, find the chromatic number of G.

(*iii*) COLC : Given a graph G, find an optimal colouring of G.

Select *correct* answer :

(A) (*i*) is P, (*ii*) is NP , (*iii*) is NP.

(B) (*i*) is NP complete, (*ii*) and (*iii*) are NP- hard

(C) (*i*) is P and (*ii*) and (*iii*) are NP

(D) All are polynomial time

31. The .....operator(s) cannot be overloaded.

(A) Binary

(B) Unary

(C) Ternary

(D) None

32. A friend function to a class X cannot access :

(A) The data members of the derived class of X.

(B) Protected data members and member functions

(C) Private data members and member functions

(D) Public data members and member functions

33. From the given statements below which is *not* the characteristic of a constructor ?

(A) They can be virtual

(B) They do not have return type

(C) They should be declared in the public section

(D) They cannot be inherited

34. The global objects are destroyed :

(A) as soon as local objects die

(B) when program terminates

(C) when the control comes out of the block in which they are being used.

(D) when the control comes out of the function in which they are being used.

35. The visibility modes in access control in a protection derivation will change as follows :

(A) private public and protected become protected

(B) only private becomes protected

(C) only public becomes protected

(D) public and protected becomes protected

36. In program writing process of software engineering, specific design aspects are considered. The following is one of the important design aspect :

(A) platforms

(B) performance

(C) reliability

(D) input formats

37. If one sees the characteristics of agile process, one of the following is a major characteristic of agile process :

(A) assumes that requirements will not change

(B) user involvement is only at beginning

(C) documentation is minimal

(D) process complexity is high

38. From the major steps of requirements engineering, one of the following is important step :

(A) Business flow

(B) Prototyping

(C) User interface

(D) Security

39. The metric for design structural complexity to include the internal complexity of program module is given by :

$$HCp = Cip * (fan\text{-}in * fan\text{-}out)^2$$

Where 'H' represents :

(A) Halstead – Card

(B) Halstead – Kafura

(C) Henry – Kafura

(D) Henry – Selig

40. In the expression of metrics given in Q. No. 39, which is for structural complexity of program module, the fan-in means :

(A) no. of parameters flow into a program module

(B) no. of information flow into a program module

(C) no. of instructions flow into a program module

(D) no. of attributes flow into a program module

41. In case of distributed memory parallel system, which of the following techniques is used for compile-time program transformation for accessing remote data :

(A) cache coherence scheme

(B) computation migration

(C) remote procedure call

(D) message passing

42. In a system there are several process executives, in this scenario which process can be affected by the execution ?

(A) child process

(B) parent process

(C) cooperatives process

(D) init process

43. In operating system memory management "compaction" is defined as :

(A) a technique for overcoming internal fragmentation

(B) a technique for overcoming external fragmentation

(C) a paging technique

(D) a technique for overcoming fatal error.

44. Consider the following program code fragment

```
main( )
{
    if(fork( ) > 0)
        sleep(100) ;
}
```

results in the creation of :

(A) an orphan process

(B) a zombie process

(C) a process that executes infinitely

(D) none of the above

45. Suppose there is a system consisting of 4 (four) resources of same type that are shared by 3 (three) processes each of which needs at most 2 (two) resources under this condition whether the system will be in .....

(A) starvation

(B) deadlock free

(C) deadlock sure

(D) options (A) and (C) only

46. Prospector is application of :

(A) Medicine applications

(B) Geological applications

(C) Biological applications

(D) Chemical applications

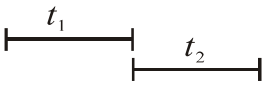
47. {7(a → B), B → 7} is for :

(A) 7 a ∨ 7

(B) 7 a ∧ 7

(C) a ∨ 7

(D) 7 a ∨ a

48. 

The two temporal t_1 and t_2 will :

(A) overlap

(B) meet

(C) before

(D) during

49. Which of the following is AI search ?

(A) Sequential search

(B) Binary search

(C) Presorting

(D) BFS

50. Which of the following is the knowledge representation ?

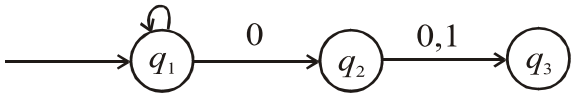
(A) BFS

(B) DFS

(C) Heuristic

(D) Frames

51. In the following FSM



is equivalent to :

(A) (0 + 1) 0 1*

(B) 1* 0 (0 + 1)

(C) 0 1* (0 + 1)

(D) 1 1* (0 + 1)

52. Write a regular expression which is starting with 10 followed by any number of 0's and 1's is equivalent to :

(A) 0 1 (0 + 1)*

(B) 0 0 (1 + 0)*

(C) 1 1 (1 + 0)*

(D) 1 0 (0 + 1)*

53. The regular expression (R + S)* is equivalent to :

(A) R* S*

(B) R* S

(C) R* + S*

(D) R S*

54. The following regular expression $P \rightarrow 0\ P\ 1\ /\ 1\ /\ \in$ will give :

(A) 0 0* 1

(B) 0 1*

(C) 0 1 0*

(D) 0 1* 1

55. Turing machine is used for .....

(A) Lexical Analysis

(B) Syntax Analysis

(C) Editor

(D) Computation

56. Which of the following are the properties of channel capacity for an input alphabet x and output alphabet y ?

(*i*) $C \geq 0$

(*ii*) $C \leq \log|x|$

(*iii*) $C \geq \log|y|$

(A) (*i*) and (*ii*)

(B) (*i*) and (*iii*)

(C) (*ii*) and (*iii*)

(D) (*i*), (*ii*) and (*iii*)

57. The data contains five different symbols, whose occurrences are as shown below :

Symbol :	A	B	C	D	E
Frequency :	24	12	10	8	8

How much bit space is required to store the above data, when these symbols are coded using Huffman coding ?

(A) 122

(B) 138

(C) 142

(D) 186

58. Linear code is a :

(A) Error detecting code

(B) Error correcting code

(C) Error transmission code

(D) Error detecting and correcting code

59. Which of the statement(s) is/are *correct* ?

(*i*) In a Fourier transformed image,at location F (0, 0) average value of input image is available

(*ii*) High pass filter is useful to reduce the effect of small dots

(A) (*i*)

(B) (*ii*)

(C) Both (*i*) and (*ii*)

(D) None of the above

60. When compressing the images which of the following redundancy/ redundancies need(s) to be addressed ?

(A) Coding redundancy

(B) Psychological redundancy

(C) Interpixel redundancy

(D) All the above

Q. Nos. 61 and 62 :

Consider the following linear programming problem :

Maximize : $Z = 20x_1 + 10x_2$

Subject to : $x_1 + 2x_2 \leq 40$

$3x_1 + x_2 \geq 30$

$4x_1 + 3x_2 \geq 60$

$x_1, x_2 \geq 0$

61. Which of the following is a pair of points in the feasible region ?

(A) (4 ,18), (20, 5)

(B) (6 ,12), (10, 0)

(C) (0 ,30), (40, 0)

(D) (0 ,20), (15, 0)

62. The dual of this problem :

(A) will be a maximization problem with 3 variables and 2 constraints

(B) will not be possible as there are negative coefficients in the constraints and objective function in the standard form.

(C) can not be solved by simplex method because of negative coefficients in the objective function and constraints in the standard form.

(D) will be a minimization problem with 3 variables and 2 constraints.

63. Consider the following transportation :

		Factory			
		F_1	F_2	F_3	F_4	**Capacity**
Warehouse	W_1	5	4	2	6	20
	W_2	8	3	5	7	30
	W_3	5	9	4	6	50
Demand		10	40	20	30	100

The standard Linear Programming formulation of this problem will have :

(A) 6 decision variables and 7 equality constraints

(B) 6 decision variables and 14 inequality constraints

(C) 12 decision variables and 7 equality constraints

(D) 7 decision variables and 7 equality constraints

64. Consider the following assignment problem :

Machines

		M_1	M_2	M_3	M_4
Jobs	I	5	7	11	6
	II	8	5	9	6
	III	4	7	10	7
	IV	10	4	8	3

This problem has 2 optimal solutions. But in both the solutions the following assignment pair(s) are common :

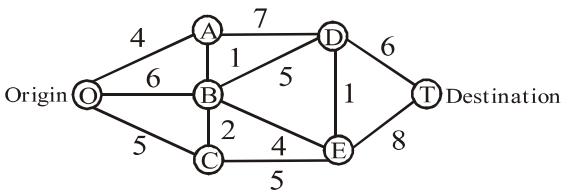
(A) I $\rightarrow$ M_1 and II $\rightarrow$ M_2

(B) II $\rightarrow$ M_2

(C) I $\rightarrow$ M_1 and IV $\rightarrow$ M_4

(D) II $\rightarrow$ M_2 and III $\rightarrow$ M_3

65. Consider the following network with origin at O and destination at T.



In this network :

(A) There are two paths from O to T having the shortest length of 16 units.

(B) There is only one path from O to T with the shortest length of 16 units

(C) These are more than 2 paths with the shortest length.

(D) Shortest path can not be determined as the edges are not directed.

66. In case of linear separability problem, the classes of pattern with..... vector can be separated with..... surface(s)

(A) Single dimension, single decision

(B) Multidimension, single decision

(C) Single dimension, multi-decision

(D) Multidimension, multi-decision

67. Which of the following statements are *true* for neural networks ?

(*i*) Functioning of artificial neural networks and biological neurons are similar

(*ii*) The time required to train a network depends on its size.

(*iii*) neural networks learn by example

(A) (*i*) and (*ii*)

(B) (*i*) and (*iii*)

(C) (*ii*) and (*iii*)

(D) (*i*), (*ii*) and (*iii*)

68. In a multilayer perception, the hidden nodes :

(A) do not do any computation and won't assist in producing the output

(B) have '0' as input value

(C) have no direct connection to the input or the output

(D) have no direct connections to any other nodes

69. Let $\tilde{A} = \{(x_1, 0.3), (x_2, 0.8), (x_3, 0.1)\}$ and $\tilde{B} = \{(y_1, 0.4), (y_2, 0.6)\}$ be two fuzzy sets defined on the universe of discourse $X = \{x_1, x_2, x_3\}$ and $Y = \{y_1, y_2\}$ respectively. Which of the following is/are fuzzy Cartesian product(s) ?

(*i*)
$$\begin{array}{c} \\ x_1 \\ x_2 \\ x_3 \end{array} \begin{array}{c} \begin{array}{cc} y_1 & y_2 \end{array} \\ \begin{bmatrix} 0.4 & 0.6 \\ 0.8 & 0.8 \\ 0.4 & 0.6 \end{bmatrix} \end{array}$$

(*ii*)
$$\begin{array}{c} \\ x_1 \\ x_2 \\ x_3 \end{array} \begin{array}{c} \begin{array}{cc} y_1 & y_2 \end{array} \\ \begin{bmatrix} 0.3 & 0.3 \\ 0.4 & 0.6 \\ 0.1 & 0.1 \end{bmatrix} \end{array}$$

(*iii*)
$$\begin{array}{c} \\ x_1 \\ x_2 \\ x_3 \end{array} \begin{array}{c} \begin{array}{cc} y_1 & y_2 \end{array} \\ \begin{bmatrix} 0.12 & 0.18 \\ 0.32 & 0.48 \\ 0.04 & 0.06 \end{bmatrix} \end{array}$$

(A) (*i*)

(B) (*iii*)

(C) (*i*) and (*iii*)

(D) (*ii*) and (*iii*)

70. Let X be a universe discourse, C be a class of subsets of X, and E, $F \in C$, then for the fuzzy measure $g : C \to R$, which of the following is additive ?

(A) $g(E \cup F) = g(E) + g(F)$ for all $E \cap F = \phi$

(B) $g(E \cup F) = g(E) + g(F)$ for all $E \cap F \neq \phi$

(C) $g(E \cup F) = g(E) \cup g(F)$ for all $E + F = \phi$

(D) $g(E \cup F) = g(E) + g(F)$ for all $E - F = \phi$

71. In a single processor system, there are four units of each resource A, B and C, which are to be shared by three processes. The current scenario is described by allocation matrix, which gives the number of resources of each type allocated to each process and the request matrix, which gives the number resources requested by each process to complete the execution. Which process will complete first and which will be last ?

	Allocation			Request		
Process	A	B	C	A	B	C
$\mathbf{P_0}$	1	0	2	2	1	2
$\mathbf{P_1}$	2	1	1	0	1	1
$\mathbf{P_2}$	1	2	0	2	0	3

(A) P_1, P_2

(B) P_0, P_2

(C) P_1, P_0

(D) No processes will complete due to deadlock

72. The unlink system call is used in UNIX as unlink (Path name)

Which of the following statements are always *true* ?

(1) The file is no more accessible

(2) The call removes inode entry for that file

(3) The call removes directory entry for that file

(4) The call releases blocks allocated to the file

(A) (1), (2) and (3)

(B) (1), (2) and (4)

(C) (3)

(D) (1) and (3)

73. Which of the following statements are true for variables in shell programming ?

(1) Variables are declared before assigning values.

(2) Variables are case sensitive

(3) To extract the contents, the variable name should be preceded by a $.

(4) Clear command can be used to clear the list of variables.

(A) (1), (2) and (3)

(B) (2) and (3)

(C) (2), (3) and (4)

(D) (1), (3) and (4)

74. The first and last message received by a Window5 procedure in Win32 Window5 programming are :

(A) WM_INIT, WM_QUIT

(B) WM_INIT, WM_CLOSE

(C) WM_ACTIVATE, WM_DEACTIVATE

(D) WM_CREATE, WM_DESTROY

75. Which of the following is *true* for timer massages in Win32 Window5 programming ?

(1) Timer messages are not queued but send directly.

(2) Window5 combines multiple WM_TIMER messages.

(3) A busy application is not guaranteed to receive a timer message.

(4) Timer messages are asynchronous.

(A) (1), (2) and (3)

(B) (2) and (3)

(C) (1) and (4)

(D) (1), (2) and (4)

ROUGH WORK

ROUGH WORK