

Signature and Name of Invigilator

1. (Signature) _____

(Name) _____

2. (Signature) _____

(Name) _____

D-8705

PAPER – II

Time : 1¼ hours] COMPUTER APPLICATIONS [Maximum Marks : 100

Number of Pages in this Booklet : 8

Number of Questions in this Booklet : 50

Instructions for the Candidates

- Write your roll number in the space provided on the top of this page.
- This paper consists of fifty multiple-choice type of questions.
- At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
 - 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 and do not accept an open booklet.
 - Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the question booklet will be replaced nor any extra time will be given.
 - After this verification is over, the Serial No. of the booklet should be entered in the Answer-sheets and the Serial No. of Answer Sheet should be entered on this Booklet.
- Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.

Example : (A) (B) (C) (D)

where (C) is the correct response.
- Your responses to the items are to be indicated in the Answer Sheet given inside the Paper I booklet only. If you mark at any place other than in the ovals in the Answer Sheet, it will not be evaluated.
- Read instructions given inside carefully.
- Rough Work is to be done in the end of this booklet.
- If you write your name or put any mark on any part of the test booklet, except for the space allotted for the relevant entries, which may disclose your identity, you will render yourself liable to disqualification.
- You have to return the test question booklet to the invigilators at the end of the examination compulsorily and must not carry it with you outside the Examination Hall.
- Use only Blue/Black Ball point pen.
- Use of any calculator or log table etc., is prohibited.
- There is NO negative marking.

Answer Sheet No. :

(To be filled by the Candidate)

Roll No.

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(In figures as per admission card)

Roll No. _____

(In words)

Test Booklet No.

परीक्षार्थियों के लिए निर्देश

- पहले पृष्ठ के ऊपर नियत स्थान पर अपना रोल नम्बर लिखिए।
- इस प्रश्न-पत्र में पचास बहुविकल्पीय प्रश्न हैं।
- परीक्षा प्रारम्भ होने पर, प्रश्न-पुस्तिका आपको दे दी जायेगी। पहले पाँच मिनट आपको प्रश्न-पुस्तिका खोलने तथा उसकी निम्नलिखित जाँच के लिए दिये जायेंगे जिसकी जाँच आपको अवश्य करनी है :
 - प्रश्न-पुस्तिका खोलने के लिए उसके कवर पेज पर लगी कागज की सील को फाड़ लें। खुली हुई या बिना स्टीकर-सील की पुस्तिका स्वीकार न करें।
 - कवर पृष्ठ पर छपे निर्देशानुसार प्रश्न-पुस्तिका के पृष्ठ तथा प्रश्नों की संख्या को अच्छी तरह चेक कर लें कि ये पूरे हैं। दोषपूर्ण पुस्तिका जिनमें पृष्ठ/प्रश्न कम हों या दुबारा आ गये हों या सीरियल में न हों अर्थात् किसी भी प्रकार की त्रुटिपूर्ण पुस्तिका स्वीकार न करें तथा उसी समय उसे लौटाकर उसके स्थान पर दूसरी सही प्रश्न-पुस्तिका ले लें। इसके लिए आपको पाँच मिनट दिये जायेंगे। उसके बाद न तो आपकी प्रश्न-पुस्तिका वापस ली जायेगी और न ही आपको अतिरिक्त समय दिया जायेगा।
 - इस जाँच के बाद प्रश्न-पुस्तिका की क्रम संख्या उत्तर-पत्रक पर अंकित करें और उत्तर-पत्रक की क्रम संख्या इस प्रश्न-पुस्तिका पर अंकित कर दें।
- प्रत्येक प्रश्न के लिए चार उत्तर विकल्प (A), (B), (C) तथा (D) दिये गये हैं। आपको सही उत्तर के दीर्घवृत्त को पेन से भरकर काला करना है जैसा कि नीचे दिखाया गया है।

उदाहरण : (A) (B) (C) (D)

जबकि (C) सही उत्तर है।
- प्रश्नों के उत्तर केवल प्रश्न पत्र I के अन्दर दिये गये उत्तर-पत्रक पर ही अंकित करने हैं। यदि आप उत्तर पत्रक पर दिये गये दीर्घवृत्त के अलावा किसी अन्य स्थान पर उत्तर चिन्हंकित करते हैं, तो उसका मूल्यांकन नहीं होगा।
- अन्दर दिये गये निर्देशों को ध्यानपूर्वक पढ़ें।
- कच्चा काम (Rough Work) इस पुस्तिका के अन्तिम पृष्ठ पर करें।
- यदि आप उत्तर-पुस्तिका पर अपना नाम या ऐसा कोई भी निशान जिससे आपकी पहचान हो सके, किसी भी भाग पर दर्शाते या अंकित करते हैं तो परीक्षा के लिये अयोग्य घोषित कर दिये जायेंगे।
- आपको परीक्षा समाप्त होने पर उत्तर-पुस्तिका निरीक्षक महोदय को लौटाना आवश्यक है और परीक्षा समाप्ति के बाद अपने साथ परीक्षा भवन से बाहर न लेकर जायें।
- केवल नीले/ काले बाल ज्वार्डेट पेन का ही इस्तेमाल करें।
- किसी भी प्रकार का संगणक (कैलकुलेटर) या लाग टेबल आदि का प्रयोग वर्जित है।
- गलत उत्तर के लिए अंक नहीं काटे जायेंगे।

Computer Science and Applications
PAPER – II

Note : This paper contains **fifty** (50) objective-type questions, each question carrying **two** (2) marks. Attempt **all** of them.

1. T is a graph with n vertices. T is connected and has exactly n-1 edges, then :
(A) T is a tree
(B) T contains no cycles
(C) Every pairs of vertices in T is connected by exactly one path
(D) All of these

2. If the proposition $\neg P \Rightarrow Q$ is true, then the truth value of the proposition $\neg P \vee (P \Rightarrow Q)$ is :
(A) True (B) Multi - Valued
(C) False (D) Can not determined

3. Let A and B be two arbitrary events, then :
(A) $P(A \cap B) = P(A) P(B)$ (B) $P(P \cup B) = P(A) + P(B)$
(C) $P(A \cup B) \leq P(A) + P(B)$ (D) $P(A/B) = P(A \cap B) + P(B)$

4. Which sentence can be generated by $S \rightarrow d/bA, A \rightarrow d/ccA$:
(A) bccddd (B) aabccd (C) ababccd (D) abbbd

5. Regular expression $a + b$ denotes the set :
(A) {a} (B) { ϵ , a, b} (C) {a, b} (D) None of these

6. Which of the following is divisible by 4 ?
(A) 100101100 (B) 1110001110001
(C) 11110011 (D) 10101010101010

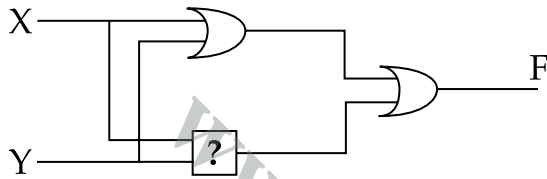
7. A half-adder is also known as :
(A) AND Circuit (B) NAND Circuit
(C) NOR Circuit (D) EX-OR Circuit

8. Consider the following sequence of instructions :

$a = a \oplus b$, $b = a \oplus b$, $a = b \oplus a$ This Sequence

- (A) retains the value of the a and b
- (B) complements the value of a and b
- (C) swap a and b
- (D) negates values of a and b

9. Consider the following circuit :

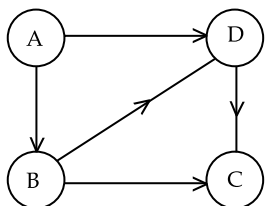


to make it a Tautology the should be :

- (A) NAND gate (B) AND gate (C) OR gate (D) EX-OR gate
10. When an inverter is placed between both inputs of an S-R flip flop, the resulting flip flop is :
- (A) JK flip-flop (B) D-flip-flop
 - (C) T flip-flop (D) None of these
11. What is the output of the following C-program main () :
- ```
{print f("%d%d%d", size of (3.14f), size of (3.14), size of (3.141));}
```
- (A) 4 4 4      (B) 4 8 10      (C) 8 4 8      (D) 8 8 8
12. The bitwise OR of 35 with 7 in C will be :
- (A) 35      (B) 7      (C) 42      (D) 39
13. Data members and member function of a class by default is respectively :
- (A) private and public      (B) public
  - (C) public and private      (D) private
14. Function over loading done at :
- (A) Runtime      (B) Compile time
  - (C) Linking time      (D) Switching from function to function

15. What will be the value of  $i$  for the following expression :
- ```
int i = 11, j = 3 ;
i += (j > 3) ? i & 2 : 5 ;
```
- (A) 2 (B) 5 (C) 13 (D) 12
16. A schema describes :
- (A) data elements (B) records and files
(C) record relationship (D) all of the above
17. One approach to standardizing storing of data :
- (A) MIS (B) CODASYL
(C) Structured Programming (D) None of the above
18. In a relational schema, each tuple is divided in fields called :
- (A) Relations (B) Domains (C) Queries (D) All the above
19. An embedded printer provides :
- (A) Physical record key (B) An inserted Index
(C) A secondary access path (D) All the above
20. A locked file can be :
- (A) accessed by only one user
(B) modified by users with the correct password
(C) is used to hide sensitive information
(D) both (B) and (C)
21. In what tree, for every node the height of its left subtree and right subtree differ at least by one :
- (A) Binary search tree (B) AVL - tree
(C) Threaded binary tree (D) Complete tree
22. A hash function f defined as $f(\text{key}) = \text{key} \bmod 7$, with linear probing it is used to insert the key 37,38,72,48,98,11,56 into a table index from 0 to 6. What will be the locations of 11 :
- (A) 3 (B) 4 (C) 5 (D) 6

23. Consider the graph, which of the following is a valid topological sorting ?



- (A) ABCD (B) BACD (C) BADC (D) ABDC

24. The initial configuration of queue is a, b, c, d. 'a' is at the front. To get the configuration d, c, b, a how many deletions and additions required :

- (A) 2 deletions, 3 additions (B) 3 deletions, 2 additions
(C) 3 deletions, 4 additions (D) 3 deletions, 3 additions

25. Which traversal techniques lists the nodes of a binary search tree in ascending order ?

- (A) post - order (B) in - order
(C) pre - order (D) linear - order

26. The data unit in the TCP/IP application Layer is called a _____ .

- (A) message (B) segment (C) datagram (D) frame

27. Which of following file retrieval methods use hypermedia ?

- (A) HTML (B) Veronica (C) WAIS (D) HTTP

28. Which of following is an example of a client - server model :

- (A) DNS (B) FTP (C) TELNET (D) All the above

29. _____ provide a method to recover data that has been delivered but not get used :

- (A) Segmentation (B) Concatenation
(C) Translation (D) Synchronization

30. Encryption and decryption are the functions of the _____ layer of OSI model :

- (A) transport (B) session (C) router (D) presentation

31. The Register or main memory location which contains the effective address of the operand is known as :

- (A) Pointer (B) Indexed register
(C) Special Locations (D) Scratch Pad

32. A Top - down Parse generates :
- (A) Left most derivation (B) Right - most derivation
(C) Right - most derivation in reverse (D) Left - most derivation in reverse
33. A general macroprocessor is an in built function of :
- (A) Loader (B) Linker (C) Editor (D) Assembler
34. Which of the following is not collision Resolution Technique :
- (A) Hash addressing (B) Chaining
(C) Indexing (D) None of these
35. Which activities is not included in the first pass of two pass assembler ?
- (A) build the symbol table
(B) construct the Intermediate code
(C) separate mnemonic opcode and operand field.
(D) none of these
36. Producer consumer problem can be solved using :
- (A) semaphores (B) event counters
(C) monitors (D) all the above
37. If you want to execute more than one program at a time, the systems software that are used must be capable of :
- (A) word processing (B) virtual memory
(C) compiling (D) multitasking
38. Which of the following checks cannot be carried out on the input data to a system ?
- (A) Consistency check (B) Syntax check
(C) Range check (D) All the above
39. Nonmodifiable procedures are called :
- (A) Serially usable procedure (B) Concurrent procedure
(C) Reentrant procedure (D) Topdown procedure
40. Banker's algorithm is used for _____ purpose :
- (A) Deadlock avoidance (B) Deadlock removal
(C) Deadlock prevention (D) Deadlock continuations
41. The testing of software against SRS is called :
- (A) Acceptance testing (B) Integration testing
(C) Regression testing (D) Series testing

42. The lower degree of cohesion is :
(A) logical cohesion (B) coincidental cohesion
(C) procedural cohesion (D) communicational cohesion
43. The Reliability of the software is directly dependent upon :
(A) Quality of the design (B) Programmer's experience
(C) Number of error (D) Set of user requirements
44. Successive layer of design in software using bottom-up design is called :
(A) Layer of Refinement (B) Layer of Construction
(C) Layer of abstraction (D) None of the above
45. Sliding window concept of software project management is :
(A) Preparation of comprehensible plan
(B) Preparation of the various stages of development
(C) Ad-hoc planning
(D) Requirement analysis
46. Which of the following transmission media is used in Blue tooth Technology :
(A) Radio links (B) Microwave links
(C) VSAT Communication (D) Fiber - optic
47. Which of the following is an EDI standard ?
(A) ANSI X.15 (B) ANSI X.14 (C) ANSI X.13 (D) ANSI X.12
48. Analysis of large database to retrieve information is called :
(A) OLTP (B) OLAP (C) OLDP (D) TLPP
49. The cost of the network is usually determined by :
(A) Time complexity (B) Switching complexity
(C) Circuit complexity (D) None of these
50. The mechanism with which several users can share a medium without interference is :
(A) Frequency modulation (B) Amplitude modulation
(C) Multiplexing (D) None of these

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Space For Rough Work

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