

Diploma in Computer Science (CS)

Dated: 13.01.2020

Total Marks: 100,

Time: 2 Hours

Instructions

This paper is divided into two sections, section A and section B of 50 marks each. Section A consists of technical objective and subjective type questions. Questions 1 to 6 of section A are of 2 marks each. All other questions of section A are of 1 mark each. Section B consists of non-technical (Mathematics, English, Hindi & General Knowledge) objective and subjective type questions of 1 mark each. There is only one correct answer in each objective question. There is no negative marking for wrong answer. Do not mutilate or damage or put any extraneous mark in the answer sheet. If any change or over-writing or correction or cutting is found in answering any objective/ fill in the blanks/True-false question, it will not be evaluated. In case of any doubt in any question follow English version.

Section A (50 Marks) Technical Subjects

1. Write short note on Artificial Intelligence (AI). **(2 Marks)**
2. What are the functions of Network layer in OSI model? **(2 Marks)**
3. Differentiate dynamic IP address with static IP address? **(2 Marks)**
4. Distinguish between Internet and World Wide Web. **(2 Marks)**
5. Distinguish between Multi-Programming and Multi-Tasking. **(2 Marks)**
6. Convert the following from one number system to another system:
 - (i) $(65.65)_{10} = (\dots\dots\dots)_2$ **(2 Marks)**
 - (ii) $(12AE)_{16} = (\dots\dots\dots)_{10}$ **(2 Marks)**
 - (iii) $(1011.1101)_2 = (\dots\dots\dots)_{10}$ **(2 Marks)**
7. **Do as directed.**
 - (i) Each IP address includes a _____ and a Host ID.
 - (ii) TCP/IP model has _____ layers.
 - (iii) A bridge works on _____ layer of OSI model.
 - (iv) Name any two search engines.
 - (v) The full form of VSAT is _____
 - (vi) In Network Protocol FTP stands for _____
 - (vii) In Networking Protocol, the full form of SSL is _____
 - (viii) What is the function of addressing modes in 8085 microprocessor?
 - (ix) Encryption is a process of coding information into cipher text. **(True/ False).**
 - (x) What is the full form of HTML?
 - (xi) What is the addressing mode used in the instruction LXI B 0345H?
 - (xii) The storage that closely associated with the CPU of a computer is known as _____
 - (xiii) If a website uses a cookie, or a browser contains the cookie, then every time you visit that website ,the browser transfers the cookie to that website. **(True/False)**
 - (xiv) _____ is a process of wireless traffic analysis that may be helpful for forensic investigations or during troubleshooting any wireless issue.
8. The difference between memory and storage is that memory is _____ and storage is ____
 - (A) Temporary, permanent **(B) Permanent, temporary**
 - (C) Slow, fast **(D) All of above**

9. How many and what are the machine cycles needed for execution of PUSH B?
(A) 2, 1 Fetch and 1 Memory write (B) 3, 1 Fetch and 2 Memory write
(C) 3, 1 Fetch, 1 Memory read and 1 Memory write
(D) 3, 1 Fetch and 2 Memory read
10. In computer programming, particular way by which data records are arranged into a specific manner is considered as
(A) organization (B) organized
(C) Managing (D) Record Storage
11. Document which is considered output after processing and by adding more data to this output it can be used as input is termed as
(A) source data (B) capturing data
(C) processing data (D) turnaround documents
12. Program used in interactive computing is termed as
(A) translator (B) executor
(C) instructor (D) interpreter
13. Viruses which executes when computer starts is
(A) macro (B) file infector
(C) boot sector (D) salami shaving
14. Signals generated by a operating system to send it over phone line must be further converted into a
(A) AC signal (B) analog signal
(C) digital signal (D) microwave
15. Scanning technology, used in banks to read the numbers at the bottom of checks is
(A) MICR (B) OCR
(C) OMR (D) GRE
16. In the web address, <http://www.microsoft.com>, http is the
(A) URL (B) domain name
(C) Protocol (D) extension
17. Best-First search can be implemented using the following data structure.
(A) Priority Queue (B) Stack
(C) Queue (D) Circular Queue
18. When a wireless user authenticates to any Access Point, both of them go in the course of four-step authentication progression which is called
(A) AP-handshaking (B) 4-way handshake
(C) 4-way connection (D) wireless handshaking
19. Unlike microprocessors, microcontrollers make use of batteries because they have:
(A) high power dissipation (B) Low power consumption
(C) Low voltage consumption (D) Low current consumption
20. Which devices are specifically being used for converting serial to parallel and from parallel to serial respectively?
(A) timers (B) counters
(C) registers (D) serial communication
21. If same message is passed to objects of several different classes and all of those can respond in a different way, what is this feature called?
(A) Inheritance (B) Overloading
(C) Polymorphism (D) Overriding
22. In the transfer of file between server and client, if the transmission rates along the path is 10Mbps, 20Mbps, 30Mbps, 40Mbps. The throughput is usually _____
(A) 20Mbps (B) 50Mbps
(C) 40Mbps (D) 10Mbps

23. Which of the following is not a step in the Header translation procedure?
- The IPv6 mapped address is changed to an IPv4 address by extracting the rightmost 32bits
 - The value of the IPv6 priority field is discarded
 - The type of service field in IPv4 is set to zero
 - The IPv6 flow label is considered
24. Arrange the following steps to form a basic/general Engineering Process Model.
- Test
 - Design
 - Install
 - Specification
 - Manufacture
 - Maintain
- 2, 4, 5, 1, 6, 3
 - 4, 2, 5, 1, 3, 6
 - 2, 4, 5, 1, 3, 6
 - 4, 2, 5, 1, 6, 3
25. What is Six Sigma?
- It is the most widely used strategy for statistical quality assurance
 - The "Six Sigma" refers to six standard deviations
 - It is the most widely used strategy for statistical quality assurance AND The "Six Sigma" refers to six standard deviations
 - A Formal Technical Review(FTR) guideline for quality walkthrough or inspection
26. _____ is an open wireless technology standard for exchanging data over short distances from fixed and mobile devices, creating PAN (Personal Area Network) with high level of security.
27. What is Modem?

Section B (50 Marks)

Mathematics (10), English (10), Hindi (15) and General Knowledge (15)

- $(\sqrt{72}-\sqrt{18}+\sqrt{12})$ is equal to
 (a) $\sqrt{6}$ (b) $\sqrt{3}/2$ (c) $\sqrt{2}/3$ (d) $\sqrt{6}/2$
- The maximum number of common tangents drawn to two circles when both the circles touch each other externally is
 (a) 1 (b) 2 (c) 3 (d) 0
- The average of 12 numbers is 15 and the average of the first two is 14. What is the average of the rest?
- The numerical value of $\cos 1^\circ \cos 2^\circ \cos 3^\circ \dots \cos 177^\circ \cos 178^\circ \cos 179^\circ$ is
 (a) 0 (b) 1 (c) $\frac{1}{2}$ (d) $\frac{1}{\sqrt{2}}$
- The circumference of a circle is 352m, then its area in m^2 is
 (a) 9856 (b) 8956 (c) 6589 (d) 5986
- The surface area of a cube is $726 m^2$. The volume of the cube is
 (a) $1300 m^3$ (b) $1331 m^3$ (c) $1452 m^3$ (d) $1542 m^3$
- The value of $\frac{\log \sqrt{8}}{\log 8}$
 (a) $\frac{1}{8}$ (b) $\frac{1}{4}$ (c) $\frac{1}{\sqrt{8}}$ (d) $\frac{1}{2}$
- If $12a+12b=96$, what is average of a and b?
 (a) 2 (b) 8 (c) Data insufficient (d) 4
- A sum of rupees 312 was divided among 60 boys and some girls in such a way that each boy gets rupees 3.60 and each girl rupees 2.40. What is the number of girls?
- Ram is 40 years old and his brother is 60 years old. How many years ago was the ratio of their ages 3:5?

11. Choose the word opposite in meaning to the given word: *ENLARGE*
 (a) Glorify (b) Condense (c) Amplify (d) Augment
12. Choose the word opposite in meaning to the given word: *TRANQUIL*
 (a) perpetual (b) disturbed (c) unruffled (d) temporal
13. Choose the correctly spelt word
 (a) Cemetry (b) Cemetary (c) Symetry (d) Cemetery
14. Choose the correctly spelt word
 (a) Antecedant (b) Entecedent (c) Intecedent (d) Antecedent
15. Some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error. If sentence is free from error choose "No error".
Everyone were happy to hear about his success
 (a) about his success (b) Everyone were happy
 (c) to hear (d) No error
16. Some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error. If sentence is free from error choose "No error".
Our beloved Prime Minister is known to the prominent figures all over the world
 (a) is known to (b) our beloved Prime minister
 (c) the prominent figures all over the world (d) No error
17. A part of the sentence is underlined. Below are the alternative to the underlined part which may improve the sentence. Choose the correct alternative. In case no improvement is required, choose 'No Improvement' option.
Torture and trauma has made her a mental patient.
 (a) Mad (b) Mania (c) Lunatic (d) No Improvement
18. A part of the sentence is underlined. Below are the alternative to the underlined part which may improve the sentence. Choose the correct alternative. In case no improvement is required, choose 'No Improvement' option.
I was angry at myself for making such a big mistake.
 (a) with (b) about (c) on (d) No Improvement
19. In this question, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase.
He is a fine man, but to call him a saint is laying it on thick.
 (a) a reality (b) a compulsion
 (c) an exaggeration (d) a development
20. Choose the word which best expresses the meaning of the given word: *RESURGENCE*
 (a) reluctance (b) Renewal
 (c) Relocation (d) Repletion
21. भारतीय संविधान की 8वीं अनुसूची में शामिल भाषाओं की संख्या है
 (अ) 14 (ब) 15 (स) 18 (द) 22
22. भाषाई आधार पर सर्वप्रथम किस राज्य का गठन हुआ
 (अ) पंजाब (ब) जम्मू-कश्मीर (स) राजस्थान (द) आंध्र प्रदेश
23. भारतीय संविधान में किन अनुच्छेदों में राजभाषा सम्बन्धी प्रावधानों का उल्लेख है
 (अ) 343-351 तक (ब) 434-315 तक (स) 443-451 तक (द) 334-335 तक

24. हिन्दी भाषा में सतत और व्यापक मूल्यांकन करते समय आप किस बात पर विशेष ध्यान देंगे?
 (अ) भाषा प्रयोग की कुशलता (ब) शुद्ध वर्तनी
 (स) परियोजना कार्य (द) शुद्ध उच्चारण
25. महेश का संधि विच्छेद कीजिये।
26. अन्तर्निहित का संधि विच्छेद कीजिये।
27. 'सुत' शब्द को स्त्रीवाचक बनाने के लिए किस प्रत्यय का प्रयोग किया जायेगा ?
 (अ) ई (ब) आ (स) ईय (द) इक
28. 'चतुर्भुज' में कौन सा समास है?
29. 'गगनचुम्बी' में कौन सा समास है ?
 (अ) बहुव्रीहि (ब) अव्ययीभाव (स) तत्पुरुष (द) कर्मधारय
30. 'परीक्षा' शब्द निम्नलिखित वर्गों में से किस वर्ग में आता है?
 (अ) तत्सम (ब) तद्भव (स) देशज (द) विदेशज
31. 'भारतीय' शब्द का बहुवचन है
 (अ) भारतीयों (ब) भारतियों (स) भारतीओं (द) इनमें से कोई नहीं
32. कौन सा शब्द स्त्रीलिंग है?
 (अ) सहारा (ब) सूचीपत्र (स) सियार (द) परिषद
33. 'शेर' का पर्यायवाची शब्द है
 (अ) चीता (ब) केशरी (स) शावक (द) बसिंह
34. 'उत्तम' का विलोम शब्द है
 (अ) निःक्रुष्ट (ब) विकृत (स) अधम (द) कीर्ति
35. विशिष्ट अवसर पर विशिष्ट लोगों के समक्ष दिया गया विद्वत्पूर्ण भाषण
 (अ) सम्भाषण (ब) अभिभाषण (स) अपभाषण (द) अनुभाषण
36. In India, who is competent to amend Fundamental Rights of the citizens?
 (a) Lok Sabha (b) Rajya Sabha (c) Parliament (d) Supreme Court
37. 'Yellow Revolution' is related with—
 (a) Flori culture (b) Fish culture
 (c) Rape seed-Mustard production (d) Wheat production
38. 'Nirmal Bharat Abhiyan' started by Government of India relates to—
 (a) Making the Ganga, pollution free
 (b) Making the Environment pollution free
 (c) Making the Urban areas of the country pollution free
 (d) Ending the Open Latrine System in Rural areas
39. Which one of the following is the most urbanized State of India ?
 (a) Maharashtra (b) Mizoram (c) Goa (d) Tamil Nadu
40. The present day calendar is based on—
 (a) Julian Calendar (b) Gregorian Calendar
 (c) Jewish Calendar (d) Muhammadan Calendar

41. The 1st Woman Chief Minister of an Indian State was—
(a) Vijay Lakshmi Pandit (b) Sucheta Kriplani
(c) Nandini Satipathi (d) Sarojini Naidu
42. In Indian currency, the ~~One~~ Rupee Note is issued under the signature of—
(a) Governor of Reserve Bank of India (b) President of India
(c) Finance Secretary, Ministry of Finance, Govt. of India
(d) Finance Minister, Govt. of India
43. Myanmar was earlier known as
(a) Burma (b) Yangon (c) Mandalay (d) Pyonyong
44. What is the function of a Pacemaker?
(a) It decreases the heart beat (b) It regulates heart beat
(c) It increases heart beat (d) It accelerates blood supply to heart
45. **Assertion (A):** Forests are a renewable resource.
Reason (R): They enhance the quality of environment.
Select the correct answer from the codes given below—
(a) Both (A) and (R) are true and (R) is the correct explanation of (A)
(b) Both (A) and (R) are true but (R) is not the correct explanation of (A)
(c) (A) is true but (R) is false
(d) (A) is false and (R) is true
46. Which is highest mountain peak in India?
47. Which is longest river in India?
(a) Brahmaputra (b) Ganga
(c) Godavari (d) Mahi
48. Who is Chief Minister of Jharkhand?
49. In a gazette notification, the Union Home Ministry said that CAA will come into force from January 10, 2020. What is full form of CAA?
50. The longest Railway Platform in the world is in Gorakhpur Railway station, Uttar Pradesh. The length of this Platform in Feet is
(a) 8848 (b) 3519
(c) 4483 (b) 8586

*****THE END*****