

PUNJAB PUBLIC SERVICE COMMISSION

Objective Type Test (January-2023) for Recruitment to the post of Scientific Officer and Scientific Assistant (Cyber Forensic) in the Deptt. of Home Affairs & Justice

READ INSTRUCTIONS BEFORE FILLING ANY DETAILS OR ATTEMPTING TO ANSWER THE QUESTIONS.

Total Questions: 120
Time Allowed: 2 Hours

Candidate's Name _____

Father's Name _____

Date of Birth
DD MM YYYY

OMR Response Sheet No. _____

Roll No. _____

Candidate's Signature (Please sign in the box)

Question Booklet Set
A
Booklet Series No.

INSTRUCTIONS

1. The candidate shall NOT open this booklet till the time told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately.
2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in OMR sheet. Use of Ink pen or any other pen is not allowed.
3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.
4. Each candidate is required to attempt 120 questions in 120 minutes, except for orthopedically/visually impaired candidates, who would be given 40 extra minutes, for marking correct responses on the OMR sheet.
5. The question paper booklet has 20 pages.
6. The candidates, when allowed to open the question paper booklet, must first check the entire booklet to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should IMMEDIATELY bring this fact to the notice of the Invigilation Staff and obtain a new booklet of the same series as given earlier.
7. The serial number of the new Question booklet if issued for some reason should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of Question booklet.
8. The paper consists of total 480 Marks. Each question shall carry 4 marks. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet.
9. There is negative marking (1 mark for each question) for questions wrongly answered by the candidate.
10. Use of Electronic/Manual Calculator is prohibited.
11. The candidate **MUST READ INSTRUCTIONS BEHIND THE OMR SHEET** before answering the questions and check that two carbon copies attached to the OMR sheet are intact.

1. Which of the following does NOT qualify as a crime committed online?
 - a) refusal of service
 - b) Man in the middle
 - c) Phishing
 - d) AES

2. In view of invoking which Section of IT Act, 2000, Indian Government banned TikTok and other 59 Chinese mobile apps:
 - a) Section 66A
 - b) Section 66F
 - c) Section 72A
 - d) Section 69A

3. A common protocol used in VoIP technology, SIP is
 - a) Session Initiation Protocol
 - b) Secured Initiation Protocol
 - c) Secure Initiation Protocol
 - d) Session Integration Protocol

4. Session hijacking attack is the
 - a) IP hacking
 - b) IP spooling
 - c) IP spoofing
 - d) IP tracking

5. Which of the following is not a reconnaissance tool or technique for information gathering?
 - a) Hping
 - b) NMAP
 - c) Google Dorks
 - d) Nexpose

6. Which of the following is the port number for SMTP service?
 - a) Port 29
 - b) Port 27
 - c) Port 25
 - d) Port 23

7. According to Section 70 of The Information Technology Act, access or attempt to access by any unauthorized person, a protected computer system as notified by the Government in the Official Gazette where punishment may extend up to 10 years and fine is:
 - a) Cognizable, Bailable
 - b) Non-Cognizable, Bailable
 - c) Cognizable, Non-Bailable
 - d) Non- Cognizable, Non-Bailable

8. What does CCFP mean?
- a) Cyber Certified Forensics Professional
 - b) Certified Cyber Forensics Professional
 - c) Cyber Criminal Finding Process
 - d) Cyber Certified Forensics Program
9. Identify the steps of digital forensics:
- a) Identification, Preservation, Reporting, Analysis
 - b) Analysis, Preservation, Documentation, reporting
 - c) Identification, Preservation, Analysis, Documentation
 - d) Analysis, Identification, Preservation, Documentation
10. Extracting data file out of undifferentiated blocks is called as _____. Identifying and recovering files based on analysis of file formats is known as _____.
- a) file retrieval, data recovery
 - b) data carving, files recovery
 - c) file carving, data carving
 - d) None of the above
11. Incident Response Lifecycle has the following 6 phases. Arrange in proper order the Incident Response Steps and choose the correct option:
- A) Recovery from incidents, including restoration of systems
 - B) Eradication of attackers and re-entry options
 - C) Lessons learned and application of feedback to the next round of preparation
 - D) Identification of incidents
 - E) Preparation of systems and procedures
 - F) Containment of attackers and incident activity
- a) E,D,F,B,A,C
 - b) F,A,B,E,C,D
 - c) A,B,C,D,E,F
 - d) A,C,B,E,D,F
12. Which of the following is not true about DDoS attacks?
- a) Multiple computers (hacked ones) send large number of request packets to a target server or system.
 - b) Used to gain unauthorized access to systems.
 - c) Only the spoofed request packets are processed and not the legitimate one.
 - d) DoS attack uses a single computer whereas DDoS attack uses multiple computers.
13. What database service needs to be started and initialized to use the metasploit console?
- a) MySQL
 - b) Oracle
 - c) PostgreSQL
 - d) MariaDB

14. What command is used to clear event logs in meterpreter?
- a) Clearev
 - b) Eventcts
 - c) download
 - d) getprivs
15. Cross Tool Validation in mobile forensics states
- a) Usage of multiple forensics tool for extraction
 - b) Usage of Open source tool in validation
 - c) Usage of single product tool for confirming the identification of others
 - d) None
16. Scanning is performed in which stage of pen test?
- a) Reconnaissance
 - b) Pre-Attack
 - c) Post-Attack
 - d) Attack
17. In which type of attack are passwords never cracked?
- a) Brute-Force Attack
 - b) Replay Attack
 - c) Cryptography Attack
 - d) Meet in The Middle Attack
18. MAC address spoofing is which type of attack?
- a) Authentication
 - b) Encryption
 - c) Brute-force
 - d) Social engineering
19. Which of the following is a tool for performing foot printing undetected?
- a) Traceroute
 - b) Whois search
 - c) Ping sweep
 - d) Host Scanning
20. Which tool will only work on publicly traded companies?
- a) Nslookup
 - b) Edgar
 - c) Netcraft
 - d) Whois

21. Network administrators can create their own ACL rules based on _____ , _____ and _____
- a) Address, Protocols and Packet attributes
 - b) Address, Protocols and security policies
 - c) Address, policies and Packet attributes
 - d) Network topology, Protocols and data packets
22. Kismet is a/an
- a) Antivirus software
 - b) Anti spyware software
 - c) Wireless network hacking tool
 - d) None of the mentioned
23. Packet filtering firewalls work effectively in _____ networks.
- a) very simple
 - b) smaller
 - c) large
 - d) very large complex
24. What does W32/Sober-Z do to your System?
- a) Delete all accounts
 - b) Encrypt the Hard Disk
 - c) Downloads code from Internet
 - d) Removes hard Drive partitions
25. A virus that mutates into a new form on every new host to prevent detection is:
- a) Stealth virus
 - b) Parasitic Virus
 - c) Polymorphic virus
 - d) Replicating virus
26. Router works in the following layer of OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
27. Proxy firewall filters the content at which layer of the OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
28. Which one of the following layer is responsible for forwarding frames from one node to another node?
- a) Transport Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer

29. The number of digits in IMSI block is
- a) 10
 - b) 16
 - c) 15
 - d) 20
30. The outside network calls are routed to
- a) BSC
 - b) PSTN
 - c) MSC
 - d) HLR
31. Which software can get back the mobile data?
- a) Doc forensic
 - b) Q-Pass Forensic
 - c) Oxygen Forensic Suite
 - d) Pass Forensic Suits
32. Which one of the following is NIST compression standard for finger print?
- a) Huffman Code
 - b) Run-Length Code
 - c) JPEG compression
 - d) Wavelet Compression
33. Mobile tele cell smartphone working structures include open _____ that or can be prone to special attacks.
- a) OS
 - b) APIs
 - c) Keyloggers
 - d) Spyware
34. _____ consists of a big array of configuration records for the structures, inclusive of hardware and software program settings.
- a) HKEY CLASSES ROOT
 - b) HKEY CURRENT USER
 - c) HKEY LOCAL MACHINE
 - d) HKEY CURRENT CONFIG
35. Which of the subsequent application is administered to look at community traffic?
- a) Net dump
 - b) TCP dump
 - c) Slack dump
 - d) Core dump
36. The well known laptop application which presents cryptographic privateness and authentication for data communication, primarily based totally on a public-key encryption set of rules is:
- a) PGP
 - b) TGEP
 - c) GPP
 - d) CGE

37. Provenance in virtual forensics is
- The area of a document at the document system
 - The custody of a bit of evidence
 - The is part of France wherein Locard comes from
 - The beginning of the evidence
38. _____ programs assist users in system maintenance task.
- Translating
 - Library
 - Utility
 - Language processor
39. Voice-band channel has speed up to _____ baud.
- 300
 - 512
 - 9600
 - 1 million
40. A _____ operates at top three layers (session, presentation and application) of the OSI model.
- Bridge
 - Router
 - Gateway
 - Modem
41. How many rounds does the AES perform when key length is 192 bit?
- 10
 - 12
 - 14
 - 16
42. Another name for Message authentication codes is
- Cryptographic code-break
 - Cryptographic code-sum
 - Cryptographic check-sum
 - Cryptographic check-break
43. What is foot printing?
- Accumulation of data by gathering information on a target
 - Mapping the physical layout of a target's network
 - Measuring the shoe size of an ethical hacker
 - Scanning a target network to detect operating system types

44. Which of the following is a type of social engineering?
- a) User authentication
 - b) System monitoring
 - c) Shoulder surfing
 - d) Face-to-face communication
45. What port number does HTTPS use?
- a) 21
 - b) 23
 - c) 80
 - d) 443
46. What is dsniff?
- a) A MAC spoofing tool
 - b) An IP address spoofing tool
 - c) A collection of hacking tools
 - d) A sniffer
47. At what layer of the OSI model is data formatted into packets?
- a) Layer 1 - Physical
 - b) Layer 2 – Data Link
 - c) Layer 3 - Network
 - d) Layer 4 – Transport
48. Which of the following security solutions uses the same key for both encryption and authentication?
- a) WPA
 - b) WPA2
 - c) WEP
 - d) 802.11i
49. The length of IPv4 address is
- a) 4 nibbles
 - b) 8 nibbles
 - c) 16 nibbles
 - d) 32 nibbles
50. The combination of RAM and _____ is known as virtual memory.
- a) Swap Files
 - b) Slack Files
 - c) ROM
 - d) FDD

51. The process of looking for the presence of open, unsecured wireless networks is called
- a) Wardriving
 - b) Hotspot driving
 - c) Wireless hacking
 - d) Hotspot Hacking
52. CERT stands for
- a) Computer Emergency Response Team
 - b) Computer Emerging Response Team
 - c) Computer Emergency Ready Team
 - d) Computer Emerging Response Target
53. _____ usually implies entry into the building or security area with consent of an authorized person.
- a) Tailgating
 - b) Eavesdropping
 - c) Dumpster diving
 - d) Piggybacking
54. _____ means a person who has been granted a licence to issue a electronic signature certificate.
- a) Certifying Authority
 - b) Certifying Private Key Authority
 - c) Certifying system controller
 - d) Appropriate Authority
55. Which of the following file provides a command prompt when booting to MS-DOS?
- a) Boot.ini
 - b) BootSect.dos
 - c) Config.sys
 - d) Command.com
56. Digital _____ consists in hiding a mark or a message in a picture in order to protect its copyright.
- a) Watermarking
 - b) Steganography
 - c) Forensic
 - d) Cryptography
57. In _____ one or more regions are repeated at different locations within the same image.
- a) Splicing
 - b) Retouching
 - c) Copy-Move
 - d) Panaroma

58. Child pornography is an offence under section _____ of IT Act 2000.
- a) 67 A
 - b) 67 B
 - c) 67 C
 - d) 67 D
59. Which Section of the IT Act deals with cyber terrorism?
- a) 66 C
 - b) 66 B
 - c) 66 D
 - d) 66 F
60. Cyber-squatting is associated with
- a) Domain Name Dispute
 - b) IP addressing dispute
 - c) e-mail dispute
 - d) Password dispute
61. Sending of unsolicited bulk and commercial messages over the internet is
- a) Stalking
 - b) Phishing
 - c) Spamming
 - d) Spoofing
62. An example of social engineering is
- a) Viruses
 - b) Worms
 - c) Telephone IVR Phishing
 - d) Trojan Horses
63. Which of the following is considered as the world's first antivirus program?
- a) Creeper
 - b) Reaper
 - c) Tinkered
 - d) Ray Tomlinson
64. Which social media giant has launched the "She Means Business" initiative for women entrepreneurs in Odisha?
- a) Facebook
 - b) Twitter
 - c) LinkedIn
 - d) Pinterest

65. Space that a file does not use up inside a cluster is called
- a) Slack space
 - b) Swap space
 - c) Unallocated space
 - d) Allocated space
66. In terms of digital evidence, a hard drive is an example of
- a) Open computer systems
 - b) Communication systems
 - c) Embedded computer systems
 - d) None of the above
67. What is the first phase of hacking?
- a) Maintaining access
 - b) Gaining access
 - c) Reconnaissance
 - d) Password cracking
68. In Cloud computing, PaaS stands for
- a) Platform as a Service
 - b) Platform as a Survey
 - c) People as a Service
 - d) Platform as a Survey
69. Zigbee specification is based on
- a) IEEE 802.3
 - b) IEEE 802.11
 - c) IEEE 802.16
 - d) IEEE 802.15.4
70. _____ empowers IoT by bringing together everyday objects.
- a) Intelligence
 - b) Connectivity
 - c) Dynamic Nature
 - d) Enormous Scale
71. What file system does Windows 10 use?
- a) FAT
 - b) FAT32
 - c) NTFS
 - d) HPFS
72. Which partition type is used to boot Intel-based Apple machines?
- a) GUID
 - b) APM
 - c) MBR
 - d) HFS

73. Each directory entry in a FAT file system is ____ bytes in length.
- a) 0
 - b) 8
 - c) 16
 - d) 32
74. What is the area between the end of a file's logical size and the file's physical size called?
- a) Unused disk area
 - b) Unallocated clusters
 - c) Unallocated sectors
 - d) Slack space
75. When the letter "B" is represented as 41h, it is displayed in
- a) Hexadecimal
 - b) ASCII
 - c) Binary
 - d) Decimal
76. What is the decimal integer value for the binary code 0000-1001?
- a) 7
 - b) 8
 - c) 9
 - d) 1001
77. The Windows operating system uses a file name's _____ to associate files with the proper applications.
- a) Signature
 - b) MD5 hash value
 - c) Extension
 - d) Metadata
78. What is the maximum number of drive letters assigned to hard drive(s) partitions on a system?
- a) 04
 - b) 16
 - c) 24
 - d) Infinity
79. The smallest area on a drive that data can be written to is a _____ while the smallest area on a drive that a file can be written to is a _____.
- a) Bit, byte
 - b) Sector, cluster
 - c) Volume, drive
 - d) Memory, disk

80. What is found at Cylinder 0, Head 0, Sector 1 on a hard drive?
- a) Master boot record
 - b) Master file table
 - c) Volume boot record
 - d) Volume boot sector
81. IDE, SCSI, and SATA are different types of interfaces describing what device?
- a) RAM chips
 - b) Flash memory
 - c) CPUs
 - d) Hard drives
82. "Guidelines for identification, collection, acquisition, and preservation of digital evidence" is dictated by
- a) ISO/IEC 27037
 - b) ISO/IEC 27000
 - c) ISO/IEC 27001
 - d) None of the above
83. A valid definition of digital evidence is
- a) Data stored or transmitted using a computer
 - b) Information of probative value
 - c) Digital data of probative value
 - d) Any digital evidence on a computer
84. _____ is a utility native to Windows systems that display information about NICs, their status, physical address, DHCP etc.?
- a) Ipconfig
 - b) Ifconfig
 - c) Ip
 - d) All of the above
85. The criminological principle which states that, when anyone, or anything, enters a crime scene, he/she takes something of the scene with him/her, and leaves something of himself/herself behind, is
- a) Locard's Exchange Principle
 - b) Differential Association Theory
 - c) Beccaria's Social Contract
 - d) None of the above
86. The trailer is added only at
- a) Physical Layer
 - b) Data Link Layer
 - c) transport Layer
 - d) Network LAYER

87. In encapsulation, the data portion of a packet at level N - 1 carries the whole packet from level
- a) N
 - b) N+1
 - c) N+2
 - d) N+3
88. The both TCP and SCTP protocols are
- a) Connection less
 - b) connection oriented
 - c) start but no ending
 - d) None of the above
89. Hackers who help in finding bugs and vulnerabilities in a system & don't intend to crack a system are termed as
- a) Black Hat hackers
 - b) White Hat Hackers
 - c) Grey Hat Hackers
 - d) Red Hat Hackers
90. A digital signature needs a
- a) Private-key system
 - b) Shared-key system
 - c) Public-key system
 - d) All of them
91. The man-in-the-middle attack can endanger the security of the Diffie-Hellman method if two parties are not
- a) Authenticated
 - b) Joined
 - c) Submit
 - d) Separate
92. The Advanced Encryption Standard (AES), has three different configurations with respect to the number of rounds and
- a) Data Size
 - b) Round Size
 - c) Key Size
 - d) Encryption Size
93. In Cryptography, the original message, before being transformed, is called
- a) Simple Text
 - b) Plain Text
 - c) Empty Text
 - d) Filled Text

94. In File Transfer Protocol (FTP), the data connection is opened and then closed for each
- File Opened
 - File Altered
 - File Closed
 - File Transferred
95. Maximum number of characters or symbols that can be represented by Unicode is
- 2^4
 - 2^6
 - 2^{16}
 - 2^{32}
96. Which of the following are malicious programs or malwares that can record and capture a computer user's activity as they interact on the keyboard?
- Keytracer
 - Keylogging
 - Keycapture
 - Keystroker
97. 'Scareware' are a type of cybercrime that involves:
- Victims being bombarded with false alarms and fictitious threats
 - Victims pick up the bait out of curiosity and insert it into their computer
 - Sharing a link to an illegitimate website which appears authentic
 - Sending a message that prompts recipients to change their password and redirects to a malicious page
98. A company's financial system was affected and its payroll entries were deleted. This could be considered as
- Low-impact incident
 - High-Impact Incident
 - Medium-impact incident
 - Depends on the cost of recovery
99. Which of the following can be considered as a threat to information security?
- Unauthorized Access and/or data collection
 - Password protecting PDF Documents
 - Remote backup Servers
 - None of these
100. A security audit performed on the internal network of an organization by the network administration is also known as
- Active Testing
 - Passive Testing
 - Black-Box Testing
 - White-Box Testing

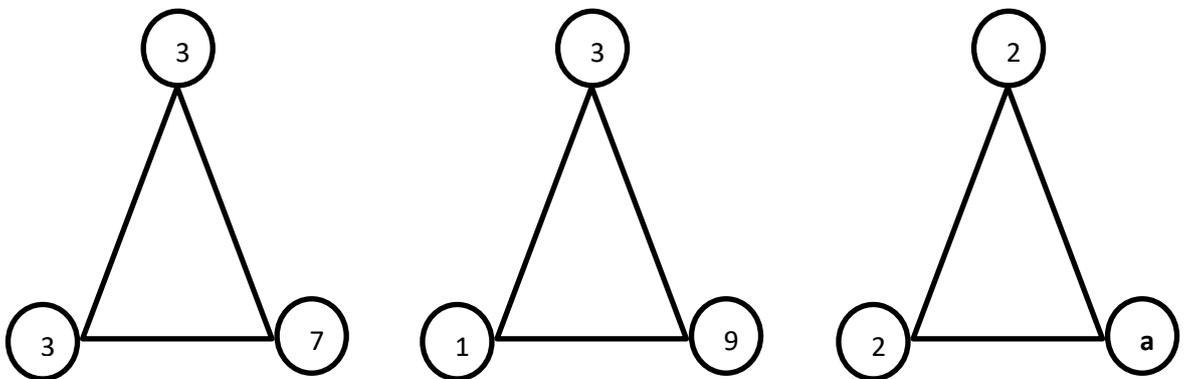
101. X, Y and Z hired a car for Rs. 520 and used it for 7, 8 and 11 hours respectively. Hire charges paid by Y were

- a) 160
- b) 140
- c) 150
- d) 170

102. What was the day on 15th August 1951?

- a) Wednesday
- b) Tuesday
- c) Monday
- d) Friday

103. Find 'a' in the following figure



- a) 4
- b) 5
- c) 6
- d) 7

104. If $A \% B$ means A is the mother of B; $A \$ B$ means A is the brother B; $A * B$ means A is the father of B and $A + B$ means A is the sister of B, $A - B$ means A is spouse of B, which of the following shows that P is the maternal aunt of Q

- a) $Q - R + S \% P$
- b) $S \$ P - R + Q$
- c) $S - Q \$ P + R$
- d) $P - S \$ R \% Q$

105. Neelaksh has a collection of coins of 50p, 25p, 10p and 5p. They are present in the ratio of 1:2:2:6. He knows that the total amount with him is Rs. 330. How many more coins of 5p are there than that of 50p?

- a) 220
- b) 500
- c) 550
- d) 1100

106. A, B and C can walk at the rates of 3, 4 and 5 km an hour respectively. They start from Poona at 1, 2, 3 o'clock respectively. When B catches A, B sends him back with a message to C. When will C get the message?
- 5.15
 - 5.20
 - 5.30
 - 6.00
107. A worldwide ban on the production of certain ozone-destroying chemicals would provide only an illusion of protection. Quantities of such chemicals, already produced, exist as coolants in millions of refrigerators. When they reach the ozone layer in the atmosphere, their action cannot be halted. So, there is no way to prevent these chemicals from damaging the ozone layer further. Which of the following, if true, most seriously weakens the argument above?
- In modern societies, refrigeration of food is necessary to prevent unhealthy and potentially life-threatening conditions
 - Replacement chemicals that will not destroy ozone have not yet been developed and would be more expensive than the chemicals now used as coolants in refrigerators
 - Even if people should give up the use of refrigerators, the coolants already in existing refrigerators are a threat to atmospheric ozone.
 - The coolants in refrigerators can be fully recovered at the end of the useful life of the refrigerators and reused
108. Vertices of a quadrilateral ABCD are A(0, 0), B(4, 5), C(9, 9) and D(5, 4). What is the shape of the quadrilateral?
- square
 - rectangle (not square)
 - rhombus
 - parallelogram (not rhombus)
109. A merchant has 100 kgs of rice, part of which he sells at 7% profit and the rest at 17% profit. He gains 10% on the whole. Find how much is sold at 7% profit?
- 50kgs
 - 70kgs
 - 40kgs
 - 30kgs
110. If x , y and z are non-zero numbers such that $1 \geq y > x$ and $xy = z$, which of the following CANNOT be true?
- $y > z$
 - $y = z$
 - $z = x$
 - $x > z$
111. Who among the following was famous for his contribution to spread of science education in colonial Punjab?
- Nand Lal Bose
 - Ruchi Ram Sahni
 - Ram Singh
 - Sir Ganga Ram

112. Who was the leader of the Vaikom Satyagraha?
- Satyamurti
 - T. K. Madhavan
 - Balwant Phadke
 - T. T. Krishnamachari
113. In reference to 4D printing and its application for tissue engineering, which of the following is not correct?
- 4D printing involves production of complexes/structures with specific permanent shapes for potential application for tissue engineering
 - 4D printing involves production of complexes/structures with specific dynamic shapes which may undergo morphological changes, and have potential for application for tissue engineering
 - 4D printing strategies have the potential for the fabrication of complex multilayer tissue constructs which may find applications for tissue engineering
 - 4D printing involves production of complexes/structures with specific shapes which are responsive to environmental stimuli in a preplanned way, and have potential for application for tissue engineering
114. Consider the following statements regarding “*Quantum computing*”
- It is the phenomena of quantum mechanics in computation to solve certain problems
 - It is relatively slower than classical computing
 - Quantum Byte is the unit in Quantum computers
 - David Deutsch is the father of Quantum computing
- Which of the above statement(s) is/are correct?
- 2 and 4
 - 1 and 3
 - 2 and 3
 - 1 and 4
115. The first neural network computer was built by:
- Einstein
 - Bose and Einstein
 - Marvin Minsky and Dean Edmonds
 - Cooper
116. The strategically significant Chabahar region is located in:
- Iran
 - Pakistan
 - Afghanistan
 - Aksai China
117. Right to clean environment is guaranteed by
- Article 14 of the constitution of India
 - Article 19 of the constitution of India
 - Article 21 of the constitution of India
 - Article 25 of the constitution of India

118. Consider the following statements:

1. Pushpa Dahal 'Prachanda' has been appointed Nepal's Prime Minister for the Third Time
2. Prachanda has support of 156 lawmakers in the 257-member House of Representatives
3. President of Nepal is Bidya Devi Bhandari
4. Pushpa Dahal 'Prachanda' has succeeded Girija Prasad Koirala

Which of the above statements are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 1, 2 and 3 only
- d) 1,2, 3 and 4

119. Consider the following statements

1. The FIH men's World Cup is scheduled from January 13 to 29, 2023 in Bhubaneswar-Rourkela, Odisha
2. Harmanpreet Singh has been named as the captain of the Indian squad for the FIH Men's Hockey World Cup 2023
3. Reliance Industries signed a Memorandum of Understanding (MoU) with Hockey India to become an official partner of the FIH Odisha Hockey Men's World Cup 2023
4. Head coach of the Indian squad for FIH Men's Hockey World Cup 2023 is Graham Reid who is a former Australian field hockey player who played as a defender and midfielder for the Australian national team

Which of the above statements are correct?

- a) 1,2 and 3 only
- b) 2,3 and 4 only
- c) 1,2 and 4 only
- d) 1,3 and 4 only

120. Golden Handshake Scheme is linked with:

- a) Establishing joint enterprises
- b) Inviting foreign companies
- c) Private investment in public enterprises
- d) Voluntary Retirement

SPACE FOR ROUGH WORK

PUNJAB PUBLIC SERVICE COMMISSION

Objective Type Test (January-2023) for Recruitment to the post of Scientific Officer and Scientific Assistant (Cyber Forensic) in the Deptt.of Home Affairs & Justice

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Father's Name _____

Date of Birth
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1. Which software can get back the mobile data?
 - a) Doc forensic
 - b) Q-Pass Forensic
 - c) Oxygen Forensic Suite
 - d) Pass Forensic Suits
2. Which one of the following is NIST compression standard for finger print?
 - a) Huffman Code
 - b) Run-Length Code
 - c) JPEG compression
 - d) Wavelet Compression
3. Mobile tele cell smartphone working structures include open _____ that or can be prone to special attacks.
 - a) OS
 - b) APIs
 - c) Keyloggers
 - d) Spyware
4. _____ consists of a big array of configuration records for the structures, inclusive of hardware and software program settings.
 - a) HKEY CLASSES ROOT
 - b) HKEY CURRENT USER
 - c) HKEY LOCAL MACHINE
 - d) HKEY CURRENT CONFIG
5. Which of the subsequent application is administered to look at community traffic?
 - a) Net dump
 - b) TCP dump
 - c) Slack dump
 - d) Core dump
6. The well known laptop application which presents cryptographic privateness and authentication for data communication, primarily based totally on a public-key encryption set of rules is:
 - a) PGP
 - b) TGEP
 - c) GPP
 - d) CGE
7. Provenance in virtual forensics is
 - a) The area of a document at the document system
 - b) The custody of a bit of evidence
 - c) The is part of France wherein Locard comes from
 - d) The beginning of the evidence
8. _____ programs assist users in system maintenance task.
 - a) Translating
 - b) Library
 - c) Utility
 - d) Language processor

9. Voice-band channel has speed up to _____ baud.
- 300
 - 512
 - 9600
 - 1 million
10. A _____ operates at top three layers (session, presentation and application) of the OSI model.
- Bridge
 - Router
 - Gateway
 - Modem
11. How many rounds does the AES perform when key length is 192 bit?
- 10
 - 12
 - 14
 - 16
12. Another name for Message authentication codes is
- Cryptographic code-break
 - Cryptographic code-sum
 - Cryptographic check-sum
 - Cryptographic check-break
13. What is foot printing?
- Accumulation of data by gathering information on a target
 - Mapping the physical layout of a target's network
 - Measuring the shoe size of an ethical hacker
 - Scanning a target network to detect operating system types
14. Which of the following is a type of social engineering?
- User authentication
 - System monitoring
 - Shoulder surfing
 - Face-to-face communication
15. What port number does HTTPS use?
- 21
 - 23
 - 80
 - 443
16. What is dsniff?
- A MAC spoofing tool
 - An IP address spoofing tool
 - A collection of hacking tools
 - A sniffer

17. At what layer of the OSI model is data formatted into packets?
- a) Layer 1 - Physical
 - b) Layer 2 – Data Link
 - c) Layer 3 - Network
 - d) Layer 4 – Transport
18. Which of the following security solutions uses the same key for both encryption and authentication?
- a) WPA
 - b) WPA2
 - c) WEP
 - d) 802.11i
19. The length of IPv4 address is
- a) 4 nibbles
 - b) 8 nibbles
 - c) 16 nibbles
 - d) 32 nibbles
20. The combination of RAM and _____ is known as virtual memory.
- a) Swap Files
 - b) Slack Files
 - c) ROM
 - d) FDD
21. The process of looking for the presence of open, unsecured wireless networks is called
- a) Wardriving
 - b) Hotspot driving
 - c) Wireless hacking
 - d) Hotspot Hacking
22. CERT stands for
- a) Computer Emergency Response Team
 - b) Computer Emerging Response Team
 - c) Computer Emergency Ready Team
 - d) Computer Emerging Response Target
23. _____ usually implies entry into the building or security area with consent of an authorized person.
- a) Tailgating
 - b) Eavesdropping
 - c) Dumpster diving
 - d) Piggybacking

24. _____ means a person who has been granted a licence to issue a electronic signature certificate.
- a) Certifying Authority
 - b) Certifying Private Key Authority
 - c) Certifying system controller
 - d) Appropriate Authority
25. Which of the following file provides a command prompt when booting to MS-DOS?
- a) Boot.ini
 - b) BootSect.dos
 - c) Config.sys
 - d) Command.com
26. Digital _____ consists in hiding a mark or a message in a picture in order to protect its copyright.
- a) Watermarking
 - b) Steganography
 - c) Forensic
 - d) Cryptography
27. In _____ one or more regions are repeated at different locations within the same image.
- a) Splicing
 - b) Retouching
 - c) Copy-Move
 - d) Panaroma
28. Child pornography is an offence under section _____ of IT Act 2000.
- a) 67 A
 - b) 67 B
 - c) 67 C
 - d) 67 D
29. Which Section of the IT Act deals with cyber terrorism?
- a) 66 C
 - b) 66 B
 - c) 66 D
 - d) 66 F
30. Cyber-squatting is associated with
- a) Domain Name Dispute
 - b) IP addressing dispute
 - c) e-mail dispute
 - d) Password dispute

31. Sending of unsolicited bulk and commercial messages over the internet is
- Stalking
 - Phishing
 - Spamming
 - Spoofing
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 - Worms
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 - Communication systems
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 - None of the above
37. What is the first phase of hacking?
- Maintaining access
 - Gaining access
 - Reconnaissance
 - Password cracking
38. In Cloud computing, PaaS stands for
- Platform as a Service
 - Platform as a Survey
 - People as a Service
 - Platform as a Survey

39. Zigbee specification is based on
- a) IEEE 802.3
 - b) IEEE 802.11
 - c) IEEE 802.16
 - d) IEEE 802.15.4
40. _____ empowers IoT by bringing together everyday objects.
- a) Intelligence
 - b) Connectivity
 - c) Dynamic Nature
 - d) Enormous Scale
41. What file system does Windows 10 use?
- a) FAT
 - b) FAT32
 - c) NTFS
 - d) HPFS
42. Which partition type is used to boot Intel-based Apple machines?
- a) GUID
 - b) APM
 - c) MBR
 - d) HFS
43. Each directory entry in a FAT file system is _____ bytes in length.
- a) 0
 - b) 8
 - c) 16
 - d) 32
44. What is the area between the end of a file's logical size and the file's physical size called?
- a) Unused disk area
 - b) Unallocated clusters
 - c) Unallocated sectors
 - d) Slack space
45. When the letter "B" is represented as 41h, it is displayed in
- a) Hexadecimal
 - b) ASCII
 - c) Binary
 - d) Decimal
46. What is the decimal integer value for the binary code 0000-1001?
- a) 7
 - b) 8
 - c) 9
 - d) 1001

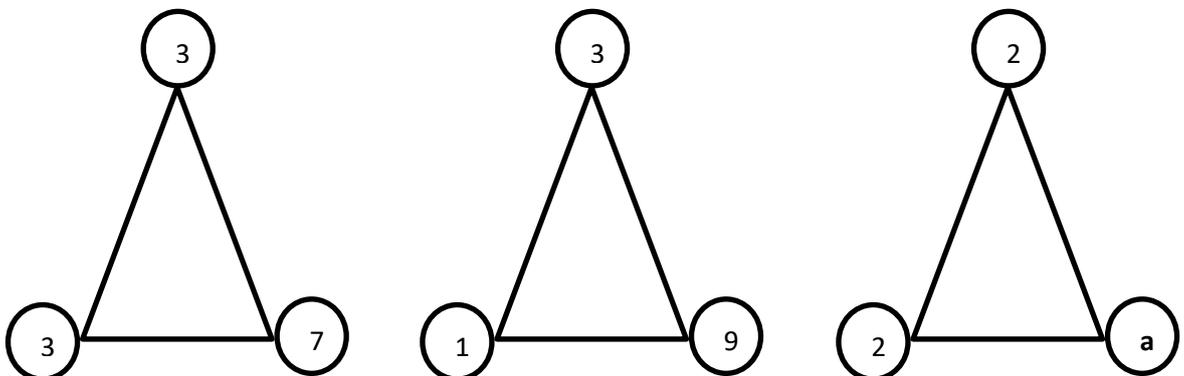
47. The Windows operating system uses a file name's _____ to associate files with the proper applications.
- a) Signature
 - b) MD5 hash value
 - c) Extension
 - d) Metadata
48. What is the maximum number of drive letters assigned to hard drive(s) partitions on a system?
- a) 04
 - b) 16
 - c) 24
 - d) Infinity
49. The smallest area on a drive that data can be written to is a _____ while the smallest area on a drive that a file can be written to is a _____.
- a) Bit, byte
 - b) Sector, cluster
 - c) Volume, drive
 - d) Memory, disk
50. What is found at Cylinder 0, Head 0, Sector 1 on a hard drive?
- a) Master boot record
 - b) Master file table
 - c) Volume boot record
 - d) Volume boot sector
51. IDE, SCSI, and SATA are different types of interfaces describing what device?
- a) RAM chips
 - b) Flash memory
 - c) CPUs
 - d) Hard drives
52. "Guidelines for identification, collection, acquisition, and preservation of digital evidence" is dictated by
- a) ISO/IEC 27037
 - b) ISO/IEC 27000
 - c) ISO/IEC 27001
 - d) None of the above
53. A valid definition of digital evidence is
- a) Data stored or transmitted using a computer
 - b) Information of probative value
 - c) Digital data of probative value
 - d) Any digital evidence on a computer

54. _____ is a utility native to Windows systems that display information about NICs, their status, physical address, DHCP etc.?
- a) Ipconfig
 - b) Ifconfig
 - c) Ip
 - d) All of the above
55. The criminological principle which states that, when anyone, or anything, enters a crime scene, he/she takes something of the scene with him/her, and leaves something of himself/herself behind, is
- a) Locard's Exchange Principle
 - b) Differential Association Theory
 - c) Beccaria's Social Contract
 - d) None of the above
56. The trailer is added only at
- a) Physical Layer
 - b) Data Link Layer
 - c) transport Layer
 - d) Network LAYER
57. In encapsulation, the data portion of a packet at level N - 1 carries the whole packet from level
- a) N
 - b) N+1
 - c) N+2
 - d) N+3
58. The both TCP and SCTP protocols are
- a) Connection less
 - b) connection oriented
 - c) start but no ending
 - d) None of the above
59. Hackers who help in finding bugs and vulnerabilities in a system & don't intend to crack a system are termed as
- a) Black Hat hackers
 - b) White Hat Hackers
 - c) Grey Hat Hackers
 - d) Red Hat Hackers
60. A digital signature needs a
- a) Private-key system
 - b) Shared-key system
 - c) Public-key system
 - d) All of them

61. The man-in-the-middle attack can endanger the security of the Diffie-Hellman method if two parties are not
- Authenticated
 - Joined
 - Submit
 - Separate
62. The Advanced Encryption Standard (AES), has three different configurations with respect to the number of rounds and
- Data Size
 - Round Size
 - Key Size
 - Encryption Size
63. In Cryptography, the original message, before being transformed, is called
- Simple Text
 - Plain Text
 - Empty Text
 - Filled Text
64. In File Transfer Protocol (FTP), the data connection is opened and then closed for each
- File Opened
 - File Altered
 - File Closed
 - File Transferred
65. Maximum number of characters or symbols that can be represented by Unicode is
- 2^4
 - 2^6
 - 2^{16}
 - 2^{32}
66. Which of the following are malicious programs or malwares that can record and capture a computer user's activity as they interact on the keyboard?
- Keytracer
 - Keylogging
 - Keycapture
 - Keystroker
67. 'Scareware' are a type of cybercrime that involves:
- Victims being bombarded with false alarms and fictitious threats
 - Victims pick up the bait out of curiosity and insert it into their computer
 - Sharing a link to an illegitimate website which appears authentic
 - Sending a message that prompts recipients to change their password and redirects to a malicious page

68. A company's financial system was affected and its payroll entries were deleted. This could be considered as
- Low-impact incident
 - High-Impact Incident
 - Medium-impact incident
 - Depends on the cost of recovery
69. Which of the following can be considered as a threat to information security?
- Unauthorized Access and/or data collection
 - Password protecting PDF Documents
 - Remote backup Servers
 - None of these
70. A security audit performed on the internal network of an organization by the network administration is also known as
- Active Testing
 - Passive Testing
 - Black-Box Testing
 - White-Box Testing
71. X, Y and Z hired a car for Rs. 520 and used it for 7, 8 and 11 hours respectively. Hire charges paid by Y were
- 160
 - 140
 - 150
 - 170
72. What was the day on 15th August 1951?
- Wednesday
 - Tuesday
 - Monday
 - Friday

73. Find 'a' in the following figure



- 4
- 5
- 6
- 7

74. If $A \% B$ means A is the mother of B; $A \$ B$ means A is the brother B; $A * B$ means A is the father of B and $A + B$ means A is the sister of B, $A - B$ means A is spouse of B, which of the following shows that P is the maternal aunt of Q
- $Q - R + S \% P$
 - $S \$ P - R + Q$
 - $S - Q \$ P + R$
 - $P - S \$ R \% Q$
75. Neelaksh has a collection of coins of 50p, 25p, 10p and 5p. They are present in the ratio of 1:2:2:6. He knows that the total amount with him is Rs. 330. How many more coins of 5p are there than that of 50p?
- 220
 - 500
 - 550
 - 1100
76. A, B and C can walk at the rates of 3, 4 and 5 km an hour respectively. They start from Poona at 1, 2, 3 o'clock respectively. When B catches A, B sends him back with a message to C. When will C get the message?
- 5.15
 - 5.20
 - 5.30
 - 6.00
77. A worldwide ban on the production of certain ozone-destroying chemicals would provide only an illusion of protection. Quantities of such chemicals, already produced, exist as coolants in millions of refrigerators. When they reach the ozone layer in the atmosphere, their action cannot be halted. So, there is no way to prevent these chemicals from damaging the ozone layer further. Which of the following, if true, most seriously weakens the argument above?
- In modern societies, refrigeration of food is necessary to prevent unhealthy and potentially life-threatening conditions
 - Replacement chemicals that will not destroy ozone have not yet been developed and would be more expensive than the chemicals now used as coolants in refrigerators
 - Even if people should give up the use of refrigerators, the coolants already in existing refrigerators are a threat to atmospheric ozone.
 - The coolants in refrigerators can be fully recovered at the end of the useful life of the refrigerators and reused
78. Vertices of a quadrilateral ABCD are A(0, 0), B(4, 5), C(9, 9) and D(5, 4). What is the shape of the quadrilateral?
- square
 - rectangle (not square)
 - rhombus
 - parallelogram (not rhombus)

79. A merchant has 100 kgs of rice, part of which he sells at 7% profit and the rest at 17% profit. He gains 10% on the whole. Find how much is sold at 7% profit?
- 50kgs
 - 70kgs
 - 40kgs
 - 30kgs
80. If x , y and z are non-zero numbers such that $1 \geq y > x$ and $xy = z$, which of the following CANNOT be true?
- $y > z$
 - $y = z$
 - $z = x$
 - $x > z$
81. Who among the following was famous for his contribution to spread of science education in colonial Punjab?
- Nand Lal Bose
 - Ruchi Ram Sahni
 - Ram Singh
 - Sir Ganga Ram
82. Who was the leader of the Vaikom Satyagraha?
- Satyamurti
 - T. K. Madhavan
 - Balwant Phadke
 - T. T. Krishnamachari
83. In reference to 4D printing and its application for tissue engineering, which of the following is not correct?
- 4D printing involves production of complexes/structures with specific permanent shapes for potential application for tissue engineering
 - 4D printing involves production of complexes/structures with specific dynamic shapes which may undergo morphological changes, and have potential for application for tissue engineering
 - 4D printing strategies have the potential for the fabrication of complex multilayer tissue constructs which may find applications for tissue engineering
 - 4D printing involves production of complexes/structures with specific shapes which are responsive to environmental stimuli in a preplanned way, and have potential for application for tissue engineering
84. Consider the following statements regarding “Quantum computing”
- It is the phenomena of quantum mechanics in computation to solve certain problems
 - It is relatively slower than classical computing
 - Quantum Byte is the unit in Quantum computers
 - David Deutsch is the father of Quantum computing

Which of the above statement(s) is/are correct?

- 2 and 4
- 1 and 3
- 2 and 3
- 1 and 4

85. The first neural network computer was built by:
- Einstein
 - Bose and Einstein
 - Marvin Minsky and Dean Edmonds
 - Cooper
86. The strategically significant Chabahar region is located in:
- Iran
 - Pakistan
 - Afghanistan
 - Aksai China
87. Right to clean environment is guaranteed by
- Article 14 of the constitution of India
 - Article 19 of the constitution of India
 - Article 21 of the constitution of India
 - Article 25 of the constitution of India
88. Consider the following statements:
- Pushpa Dahal 'Prachanda' has been appointed Nepal's Prime Minister for the Third Time
 - Prachanda has support of 156 lawmakers in the 257-member House of Representatives
 - President of Nepal is Bidya Devi Bhandari
 - Pushpa Dahal 'Prachanda' has succeeded Girija Prasad Koirala

Which of the above statements are correct?

- 1 and 2 only
- 1 and 3 only
- 1, 2 and 3 only
- 1, 2, 3 and 4

89. Consider the following statements

- The FIH men's World Cup is scheduled from January 13 to 29, 2023 in Bhubaneswar-Rourkela, Odisha
- Harmanpreet Singh has been named as the captain of the Indian squad for the FIH Men's Hockey World Cup 2023
- Reliance Industries signed a Memorandum of Understanding (MoU) with Hockey India to become an official partner of the FIH Odisha Hockey Men's World Cup 2023
- Head coach of the Indian squad for FIH Men's Hockey World Cup 2023 is Graham Reid who is a former Australian field hockey player who played as a defender and midfielder for the Australian national team

Which of the above statements are correct?

- 1, 2 and 3 only
- 2, 3 and 4 only
- 1, 2 and 4 only
- 1, 3 and 4 only

90. Golden Handshake Scheme is linked with:
- Establishing joint enterprises
 - Inviting foreign companies
 - Private investment in public enterprises
 - Voluntary Retirement
91. Which of the following does NOT qualify as a crime committed online?
- refusal of service
 - Man in the middle
 - Phishing
 - AES
92. In view of invoking which Section of IT Act, 2000, Indian Government banned TikTok and other 59 Chinese mobile apps:
- Section 66A
 - Section 66F
 - Section 72A
 - Section 69A
93. A common protocol used in VoIP technology, SIP is
- Session Initiation Protocol
 - Secured Initiation Protocol
 - Secure Initiation Protocol
 - Session Integration Protocol
94. Session hijacking attack is the
- IP hacking
 - IP spooling
 - IP spoofing
 - IP tracking
95. Which of the following is not a reconnaissance tool or technique for information gathering?
- Hping
 - NMAP
 - Google Dorks
 - Nexpose
96. Which of the following is the port number for SMTP service?
- Port 29
 - Port 27
 - Port 25
 - Port 23

97. According to Section 70 of The Information Technology Act, access or attempt to access by any unauthorized person, a protected computer system as notified by the Government in the Official Gazette where punishment may extend up to 10 years and fine is:
- Cognizable, Bailable
 - Non-Cognizable, Bailable
 - Cognizable, Non-Bailable
 - Non- Cognizable, Non-Bailable
98. What does CCFP mean?
- Cyber Certified Forensics Professional
 - Certified Cyber Forensics Professional
 - Cyber Criminal Finding Process
 - Cyber Certified Forensics Program
99. Identify the steps of digital forensics:
- Identification, Preservation, Reporting, Analysis
 - Analysis, Preservation, Documentation, reporting
 - Identification, Preservation, Analysis, Documentation
 - Analysis, Identification, Preservation, Documentation
100. Extracting data file out of undifferentiated blocks is called as _____. Identifying and recovering files based on analysis of file formats is known as _____.
- file retrieval, data recovery
 - data carving, files recovery
 - file carving, data carving
 - None of the above
101. Incident Response Lifecycle has the following 6 phases. Arrange in proper order the Incident Response Steps and choose the correct option:
- Recovery from incidents, including restoration of systems
 - Eradication of attackers and re-entry options
 - Lessons learned and application of feedback to the next round of preparation
 - Identification of incidents
 - Preparation of systems and procedures
 - Containment of attackers and incident activity
- E,D,F,B,A,C
 - F,A,B,E,C,D
 - A,B,C,D,E,F
 - A,C,B,E,D,F
102. Which of the following is not true about DDoS attacks?
- Multiple computers (hacked ones) send large number of request packets to a target server or system.
 - Used to gain unauthorized access to systems.
 - Only the spoofed request packets are processed and not the legitimate one.
 - DoS attack uses a single computer whereas DDoS attack uses multiple computers.

103. What database service needs to be started and initialized to use the metasploit console?
- a) MySQL
 - b) Oracle
 - c) PostgreSQL
 - d) MariaDB
104. What command is used to clear event logs in meterpreter?
- a) Clearev
 - b) Eventcts
 - c) download
 - d) getprivs
105. Cross Tool Validation in mobile forensics states
- a) Usage of multiple forensics tool for extraction
 - b) Usage of Open source tool in validation
 - c) Usage of single product tool for confirming the identification of others
 - d) None
106. Scanning is performed in which stage of pen test?
- a) Reconnaissance
 - b) Pre-Attack
 - c) Post-Attack
 - d) Attack
107. In which type of attack are passwords never cracked?
- a) Brute-Force Attack
 - b) Replay Attack
 - c) Cryptography Attack
 - d) Meet in The Middle Attack
108. MAC address spoofing is which type of attack?
- a) Authentication
 - b) Encryption
 - c) Brute-force
 - d) Social engineering
109. Which of the following is a tool for performing foot printing undetected?
- a) Traceroute
 - b) Whois search
 - c) Ping sweep
 - d) Host Scanning

110. Which tool will only work on publicly traded companies?
- a) Nslookup
 - b) Edgar
 - c) Netcraft
 - d) Whois
111. Network administrators can create their own ACL rules based on _____ , _____ and _____
- a) Address, Protocols and Packet attributes
 - b) Address, Protocols and security policies
 - c) Address, policies and Packet attributes
 - d) Network topology, Protocols and data packets
112. Kismet is a/an
- a) Antivirus software
 - b) Anti spyware software
 - c) Wireless network hacking tool
 - d) None of the mentioned
113. Packet filtering firewalls work effectively in _____ networks.
- a) very simple
 - b) smaller
 - c) large
 - d) very large complex
114. What does W32/Sober-Z do to your System?
- a) Delete all accounts
 - b) Encrypt the Hard Disk
 - c) Downloads code from Internet
 - d) Removes hard Drive partitions
115. A virus that mutates into a new form on every new host to prevent detection is:
- a) Stealth virus
 - b) Parasitic Virus
 - c) Polymorphic virus
 - d) Replicating virus
116. Router works in the following layer of OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
117. Proxy firewall filters the content at which layer of the OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer

118. Which one of the following layer is responsible for forwarding frames from one node to another node?

- a) Transport Layer
- b) Data Link Layer
- c) Network Layer
- d) Application Layer

119. The number of digits in IMSI block is

- a) 10
- b) 16
- c) 15
- d) 20

120. The outside network calls are routed to

- a) BSC
- b) PSTN
- c) MSC
- d) HLR

SPACE FOR ROUGH WORK

PUNJAB PUBLIC SERVICE COMMISSION

Objective Type Test (January-2023) for Recruitment to the post of Scientific Officer and Scientific Assistant (Cyber Forensic) in the Deptt.of Home Affairs & Justice

READ INSTRUCTIONS BEFORE FILLING ANY DETAILS OR ATTEMPTING TO ANSWER THE QUESTIONS.

Total Questions: 120
Time Allowed: 2 Hours

Candidate's Name _____

Father's Name _____

Date of Birth
DD MM YYYY

OMR Response Sheet No. _____

Roll No. _____

Candidate's Signature (Please sign in the box)

Question
Booklet Set

C

Booklet Series No.

INSTRUCTIONS

1. The candidate shall NOT open this booklet till the time told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately.
2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in OMR sheet. Use of Ink pen or any other pen is not allowed.
3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.
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 - d) Password cracking

8. In Cloud computing, PaaS stands for
 - a) Platform as a Service
 - b) Platform as a Survey
 - c) People as a Service
 - d) Platform as a Survey

9. Zigbee specification is based on
- a) IEEE 802.3
 - b) IEEE 802.11
 - c) IEEE 802.16
 - d) IEEE 802.15.4
10. _____ empowers IoT by bringing together everyday objects.
- a) Intelligence
 - b) Connectivity
 - c) Dynamic Nature
 - d) Enormous Scale
11. What file system does Windows 10 use?
- a) FAT
 - b) FAT32
 - c) NTFS
 - d) HPFS
12. Which partition type is used to boot Intel-based Apple machines?
- a) GUID
 - b) APM
 - c) MBR
 - d) HFS
13. Each directory entry in a FAT file system is _____ bytes in length.
- a) 0
 - b) 8
 - c) 16
 - d) 32
14. What is the area between the end of a file's logical size and the file's physical size called?
- a) Unused disk area
 - b) Unallocated clusters
 - c) Unallocated sectors
 - d) Slack space
15. When the letter "B" is represented as 41h, it is displayed in
- a) Hexadecimal
 - b) ASCII
 - c) Binary
 - d) Decimal
16. What is the decimal integer value for the binary code 0000-1001?
- a) 7
 - b) 8
 - c) 9
 - d) 1001

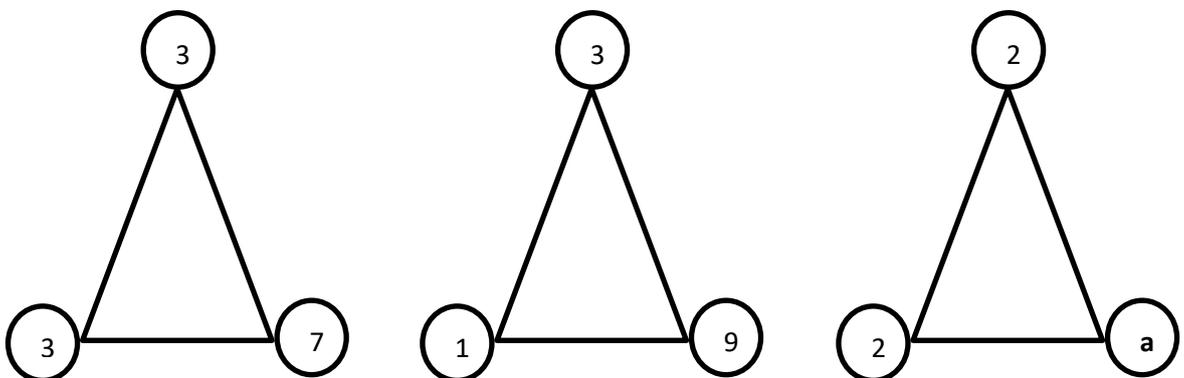
17. The Windows operating system uses a file name's _____ to associate files with the proper applications.
- Signature
 - MD5 hash value
 - Extension
 - Metadata
18. What is the maximum number of drive letters assigned to hard drive(s) partitions on a system?
- 04
 - 16
 - 24
 - Infinity
19. The smallest area on a drive that data can be written to is a _____ while the smallest area on a drive that a file can be written to is a _____.
- Bit, byte
 - Sector, cluster
 - Volume, drive
 - Memory, disk
20. What is found at Cylinder 0, Head 0, Sector 1 on a hard drive?
- Master boot record
 - Master file table
 - Volume boot record
 - Volume boot sector
21. IDE, SCSI, and SATA are different types of interfaces describing what device?
- RAM chips
 - Flash memory
 - CPUs
 - Hard drives
22. "Guidelines for identification, collection, acquisition, and preservation of digital evidence" is dictated by
- ISO/IEC 27037
 - ISO/IEC 27000
 - ISO/IEC 27001
 - None of the above
23. A valid definition of digital evidence is
- Data stored or transmitted using a computer
 - Information of probative value
 - Digital data of probative value
 - Any digital evidence on a computer

24. _____ is a utility native to Windows systems that display information about NICs, their status, physical address, DHCP etc.?
- a) Ipconfig
 - b) Ifconfig
 - c) Ip
 - d) All of the above
25. The criminological principle which states that, when anyone, or anything, enters a crime scene, he/she takes something of the scene with him/her, and leaves something of himself/herself behind, is
- a) Locard's Exchange Principle
 - b) Differential Association Theory
 - c) Beccaria's Social Contract
 - d) None of the above
26. The trailer is added only at
- a) Physical Layer
 - b) Data Link Layer
 - c) transport Layer
 - d) Network LAYER
27. In encapsulation, the data portion of a packet at level N - 1 carries the whole packet from level
- a) N
 - b) N+1
 - c) N+2
 - d) N+3
28. The both TCP and SCTP protocols are
- a) Connection less
 - b) connection oriented
 - c) start but no ending
 - d) None of the above
29. Hackers who help in finding bugs and vulnerabilities in a system & don't intend to crack a system are termed as
- a) Black Hat hackers
 - b) White Hat Hackers
 - c) Grey Hat Hackers
 - d) Red Hat Hackers
30. A digital signature needs a
- a) Private-key system
 - b) Shared-key system
 - c) Public-key system
 - d) All of them

31. The man-in-the-middle attack can endanger the security of the Diffie-Hellman method if two parties are not
- Authenticated
 - Joined
 - Submit
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- 160
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42. What was the day on 15th August 1951?
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 - Monday
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43. Find 'a' in the following figure



- 4
- 5
- 6
- 7

44. If $A \% B$ means A is the mother of B; $A \$ B$ means A is the brother B; $A * B$ means A is the father of B and $A + B$ means A is the sister of B, $A - B$ means A is spouse of B, which of the following shows that P is the maternal aunt of Q
- $Q - R + S \% P$
 - $S \$ P - R + Q$
 - $S - Q \$ P + R$
 - $P - S \$ R \% Q$
45. Neelaksh has a collection of coins of 50p, 25p, 10p and 5p. They are present in the ratio of 1:2:2:6. He knows that the total amount with him is Rs. 330. How many more coins of 5p are there than that of 50p?
- 220
 - 500
 - 550
 - 1100
46. A, B and C can walk at the rates of 3, 4 and 5 km an hour respectively. They start from Poona at 1, 2, 3 o'clock respectively. When B catches A, B sends him back with a message to C. When will C get the message?
- 5.15
 - 5.20
 - 5.30
 - 6.00
47. A worldwide ban on the production of certain ozone-destroying chemicals would provide only an illusion of protection. Quantities of such chemicals, already produced, exist as coolants in millions of refrigerators. When they reach the ozone layer in the atmosphere, their action cannot be halted. So, there is no way to prevent these chemicals from damaging the ozone layer further. Which of the following, if true, most seriously weakens the argument above?
- In modern societies, refrigeration of food is necessary to prevent unhealthy and potentially life-threatening conditions
 - Replacement chemicals that will not destroy ozone have not yet been developed and would be more expensive than the chemicals now used as coolants in refrigerators
 - Even if people should give up the use of refrigerators, the coolants already in existing refrigerators are a threat to atmospheric ozone.
 - The coolants in refrigerators can be fully recovered at the end of the useful life of the refrigerators and reused
48. Vertices of a quadrilateral ABCD are A(0, 0), B(4, 5), C(9, 9) and D(5, 4). What is the shape of the quadrilateral?
- square
 - rectangle (not square)
 - rhombus
 - parallelogram (not rhombus)

49. A merchant has 100 kgs of rice, part of which he sells at 7% profit and the rest at 17% profit. He gains 10% on the whole. Find how much is sold at 7% profit?
- 50kgs
 - 70kgs
 - 40kgs
 - 30kgs
50. If x , y and z are non-zero numbers such that $1 \geq y > x$ and $xy = z$, which of the following CANNOT be true?
- $y > z$
 - $y = z$
 - $z = x$
 - $x > z$
51. Who among the following was famous for his contribution to spread of science education in colonial Punjab?
- Nand Lal Bose
 - Ruchi Ram Sahni
 - Ram Singh
 - Sir Ganga Ram
52. Who was the leader of the Vaikom Satyagraha?
- Satyamurti
 - T. K. Madhavan
 - Balwant Phadke
 - T. T. Krishnamachari
53. In reference to 4D printing and its application for tissue engineering, which of the following is not correct?
- 4D printing involves production of complexes/structures with specific permanent shapes for potential application for tissue engineering
 - 4D printing involves production of complexes/structures with specific dynamic shapes which may undergo morphological changes, and have potential for application for tissue engineering
 - 4D printing strategies have the potential for the fabrication of complex multilayer tissue constructs which may find applications for tissue engineering
 - 4D printing involves production of complexes/structures with specific shapes which are responsive to environmental stimuli in a preplanned way, and have potential for application for tissue engineering
54. Consider the following statements regarding “Quantum computing”
- It is the phenomena of quantum mechanics in computation to solve certain problems
 - It is relatively slower than classical computing
 - Quantum Byte is the unit in Quantum computers
 - David Deutsch is the father of Quantum computing
- Which of the above statement(s) is/are correct?
- 2 and 4
 - 1 and 3
 - 2 and 3
 - 1 and 4

55. The first neural network computer was built by:

- a) Einstein
- b) Bose and Einstein
- c) Marvin Minsky and Dean Edmonds
- d) Cooper

56. The strategically significant Chabahar region is located in:

- a) Iran
- b) Pakistan
- c) Afghanistan
- d) Aksai China

57. Right to clean environment is guaranteed by

- a) Article 14 of the constitution of India
- b) Article 19 of the constitution of India
- c) Article 21 of the constitution of India
- d) Article 25 of the constitution of India

58. Consider the following statements:

- 1. Pushpa Dahal 'Prachanda' has been appointed Nepal's Prime Minister for the Third Time
- 2. Prachanda has support of 156 lawmakers in the 257-member House of Representatives
- 3. President of Nepal is Bidya Devi Bhandari
- 4. Pushpa Dahal 'Prachanda' has succeeded Girija Prasad Koirala

Which of the above statements are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 1, 2 and 3 only
- d) 1,2, 3 and 4

59. Consider the following statements

- 1. The FIH men's World Cup is scheduled from January 13 to 29, 2023 in Bhubaneswar-Rourkela, Odisha
- 2. Harmanpreet Singh has been named as the captain of the Indian squad for the FIH Men's Hockey World Cup 2023
- 3. Reliance Industries signed a Memorandum of Understanding (MoU) with Hockey India to become an official partner of the FIH Odisha Hockey Men's World Cup 2023
- 4. Head coach of the Indian squad for FIH Men's Hockey World Cup 2023 is Graham Reid who is a former Australian field hockey player who played as a defender and midfielder for the Australian national team

Which of the above statements are correct?

- a) 1,2 and 3 only
- b) 2,3 and 4 only
- c) 1,2 and 4 only
- d) 1,3 and 4 only

60. Golden Handshake Scheme is linked with:

- a) Establishing joint enterprises
- b) Inviting foreign companies
- c) Private investment in public enterprises
- d) Voluntary Retirement

61. Which of the following does NOT qualify as a crime committed online?

- a) refusal of service
- b) Man in the middle
- c) Phishing
- d) AES

62. In view of invoking which Section of IT Act, 2000, Indian Government banned TikTok and other 59 Chinese mobile apps:

- a) Section 66A
- b) Section 66F
- c) Section 72A
- d) Section 69A

63. A common protocol used in VoIP technology, SIP is

- a) Session Initiation Protocol
- b) Secured Initiation Protocol
- c) Secure Initiation Protocol
- d) Session Integration Protocol

64. Session hijacking attack is the

- a) IP hacking
- b) IP spooling
- c) IP spoofing
- d) IP tracking

65. Which of the following is not a reconnaissance tool or technique for information gathering?

- a) Hping
- b) NMAP
- c) Google Dorks
- d) Nexpose

66. Which of the following is the port number for SMTP service?

- a) Port 29
- b) Port 27
- c) Port 25
- d) Port 23

67. According to Section 70 of The Information Technology Act, access or attempt to access by any unauthorized person, a protected computer system as notified by the Government in the Official Gazette where punishment may extend up to 10 years and fine is:
- Cognizable, Bailable
 - Non-Cognizable, Bailable
 - Cognizable, Non-Bailable
 - Non- Cognizable, Non-Bailable
68. What does CCFP mean?
- Cyber Certified Forensics Professional
 - Certified Cyber Forensics Professional
 - Cyber Criminal Finding Process
 - Cyber Certified Forensics Program
69. Identify the steps of digital forensics:
- Identification, Preservation, Reporting, Analysis
 - Analysis, Preservation, Documentation, reporting
 - Identification, Preservation, Analysis, Documentation
 - Analysis, Identification, Preservation, Documentation
70. Extracting data file out of undifferentiated blocks is called as _____. Identifying and recovering files based on analysis of file formats is known as _____.
- file retrieval, data recovery
 - data carving, files recovery
 - file carving, data carving
 - None of the above
71. Incident Response Lifecycle has the following 6 phases. Arrange in proper order the Incident Response Steps and choose the correct option:
- Recovery from incidents, including restoration of systems
 - Eradication of attackers and re-entry options
 - Lessons learned and application of feedback to the next round of preparation
 - Identification of incidents
 - Preparation of systems and procedures
 - Containment of attackers and incident activity
- E,D,F,B,A,C
 - F,A,B,E,C,D
 - A,B,C,D,E,F
 - A,C,B,E,D,F
72. Which of the following is not true about DDoS attacks?
- Multiple computers (hacked ones) send large number of request packets to a target server or system.
 - Used to gain unauthorized access to systems.
 - Only the spoofed request packets are processed and not the legitimate one.
 - DoS attack uses a single computer whereas DDoS attack uses multiple computers.

73. What database service needs to be started and initialized to use the metasploit console?
- a) MySQL
 - b) Oracle
 - c) PostgreSQL
 - d) MariaDB
74. What command is used to clear event logs in meterpreter?
- a) Clearev
 - b) Eventcts
 - c) download
 - d) getprivs
75. Cross Tool Validation in mobile forensics states
- a) Usage of multiple forensics tool for extraction
 - b) Usage of Open source tool in validation
 - c) Usage of single product tool for confirming the identification of others
 - d) None
76. Scanning is performed in which stage of pen test?
- a) Reconnaissance
 - b) Pre-Attack
 - c) Post-Attack
 - d) Attack
77. In which type of attack are passwords never cracked?
- a) Brute-Force Attack
 - b) Replay Attack
 - c) Cryptography Attack
 - d) Meet in The Middle Attack
78. MAC address spoofing is which type of attack?
- a) Authentication
 - b) Encryption
 - c) Brute-force
 - d) Social engineering
79. Which of the following is a tool for performing foot printing undetected?
- a) Traceroute
 - b) Whois search
 - c) Ping sweep
 - d) Host Scanning
80. Which tool will only work on publicly traded companies?
- a) Nslookup
 - b) Edgar
 - c) Netcraft
 - d) Whois

81. Network administrators can create their own ACL rules based on _____ , _____ and _____
- a) Address, Protocols and Packet attributes
 - b) Address, Protocols and security policies
 - c) Address, policies and Packet attributes
 - d) Network topology, Protocols and data packets
82. Kismet is a/an
- a) Antivirus software
 - b) Anti spyware software
 - c) Wireless network hacking tool
 - d) None of the mentioned
83. Packet filtering firewalls work effectively in _____ networks.
- a) very simple
 - b) smaller
 - c) large
 - d) very large complex
84. What does W32/Sober-Z do to your System?
- a) Delete all accounts
 - b) Encrypt the Hard Disk
 - c) Downloads code from Internet
 - d) Removes hard Drive partitions
85. A virus that mutates into a new form on every new host to prevent detection is:
- a) Stealth virus
 - b) Parasitic Virus
 - c) Polymorphic virus
 - d) Replicating virus
86. Router works in the following layer of OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
87. Proxy firewall filters the content at which layer of the OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
88. Which one of the following layer is responsible for forwarding frames from one node to another node?
- a) Transport Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer

89. The number of digits in IMSI block is
- a) 10
 - b) 16
 - c) 15
 - d) 20
90. The outside network calls are routed to
- a) BSC
 - b) PSTN
 - c) MSC
 - d) HLR
91. Which software can get back the mobile data?
- a) Doc forensic
 - b) Q-Pass Forensic
 - c) Oxygen Forensic Suite
 - d) Pass Forensic Suits
92. Which one of the following is NIST compression standard for finger print?
- a) Huffman Code
 - b) Run-Length Code
 - c) JPEG compression
 - d) Wavelet Compression
93. Mobile tele cell smartphone working structures include open _____ that or can be prone to special attacks.
- a) OS
 - b) APIs
 - c) Keyloggers
 - d) Spyware
94. _____ consists of a big array of configuration records for the structures, inclusive of hardware and software program settings.
- a) HKEY CLASSES ROOT
 - b) HKEY CURRENT USER
 - c) HKEY LOCAL MACHINE
 - d) HKEY CURRENT CONFIG
95. Which of the subsequent application is administered to look at community traffic?
- a) Net dump
 - b) TCP dump
 - c) Slack dump
 - d) Core dump
96. The well known laptop application which presents cryptographic privateness and authentication for data communication, primarily based totally on a public-key encryption set of rules is:
- a) PGP
 - b) TGEP
 - c) GPP
 - d) CGE

97. Provenance in virtual forensics is
- The area of a document at the document system
 - The custody of a bit of evidence
 - The is part of France wherein Locard comes from
 - The beginning of the evidence
98. _____ programs assist users in system maintenance task.
- Translating
 - Library
 - Utility
 - Language processor
99. Voice-band channel has speed up to _____ baud.
- 300
 - 512
 - 9600
 - 1 million
100. A _____ operates at top three layers (session, presentation and application) of the OSI model.
- Bridge
 - Router
 - Gateway
 - Modem
101. How many rounds does the AES perform when key length is 192 bit?
- 10
 - 12
 - 14
 - 16
102. Another name for Message authentication codes is
- Cryptographic code-break
 - Cryptographic code-sum
 - Cryptographic check-sum
 - Cryptographic check-break
103. What is foot printing?
- Accumulation of data by gathering information on a target
 - Mapping the physical layout of a target's network
 - Measuring the shoe size of an ethical hacker
 - Scanning a target network to detect operating system types

104. Which of the following is a type of social engineering?
- a) User authentication
 - b) System monitoring
 - c) Shoulder surfing
 - d) Face-to-face communication
105. What port number does HTTPS use?
- a) 21
 - b) 23
 - c) 80
 - d) 443
106. What is dsniff?
- a) A MAC spoofing tool
 - b) An IP address spoofing tool
 - c) A collection of hacking tools
 - d) A sniffer
107. At what layer of the OSI model is data formatted into packets?
- a) Layer 1 - Physical
 - b) Layer 2 – Data Link
 - c) Layer 3 - Network
 - d) Layer 4 – Transport
108. Which of the following security solutions uses the same key for both encryption and authentication?
- a) WPA
 - b) WPA2
 - c) WEP
 - d) 802.11i
109. The length of IPv4 address is
- a) 4 nibbles
 - b) 8 nibbles
 - c) 16 nibbles
 - d) 32 nibbles
110. The combination of RAM and _____ is known as virtual memory.
- a) Swap Files
 - b) Slack Files
 - c) ROM
 - d) FDD

111. The process of looking for the presence of open, unsecured wireless networks is called
- Wardriving
 - Hotspot driving
 - Wireless hacking
 - Hotspot Hacking
112. CERT stands for
- Computer Emergency Response Team
 - Computer Emerging Response Team
 - Computer Emergency Ready Team
 - Computer Emerging Response Target
113. _____ usually implies entry into the building or security area with consent of an authorized person.
- Tailgating
 - Eavesdropping
 - Dumpster diving
 - Piggybacking
114. _____ means a person who has been granted a licence to issue a electronic signature certificate.
- Certifying Authority
 - Certifying Private Key Authority
 - Certifying system controller
 - Appropriate Authority
115. Which of the following file provides a command prompt when booting to MS-DOS?
- Boot.ini
 - BootSect.dos
 - Config.sys
 - Command.com
116. Digital _____ consists in hiding a mark or a message in a picture in order to protect its copyright.
- Watermarking
 - Steganography
 - Forensic
 - Cryptography
117. In _____ one or more regions are repeated at different locations within the same image.
- Splicing
 - Retouching
 - Copy-Move
 - Panaroma

118. Child pornography is an offence under section _____ of IT Act 2000.
- a) 67 A
 - b) 67 B
 - c) 67 C
 - d) 67 D
119. Which Section of the IT Act deals with cyber terrorism?
- a) 66 C
 - b) 66 B
 - c) 66 D
 - d) 66 F
120. Cyber-squatting is associated with
- a) Domain Name Dispute
 - b) IP addressing dispute
 - c) e-mail dispute
 - d) Password dispute

SPACE FOR ROUGH WORK

PUNJAB PUBLIC SERVICE COMMISSION

Objective Type Test (January-2023) for Recruitment to the post of Scientific Officer and Scientific Assistant (Cyber Forensic) in the Deptt. of Home Affairs & Justice

READ INSTRUCTIONS BEFORE FILLING ANY DETAILS OR ATTEMPTING TO ANSWER THE QUESTIONS.

Total Questions: 120
Time Allowed: 2 Hours

Candidate's Name _____

Father's Name _____

Date of Birth
DD MM YYYY

OMR Response Sheet No. _____

Roll No. _____

Candidate's Signature (Please sign in the box)

Question Booklet Set
D
Booklet Series No.

INSTRUCTIONS

1. The candidate shall NOT open this booklet till the time told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately.
2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in OMR sheet. Use of Ink pen or any other pen is not allowed.
3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.
4. Each candidate is required to attempt 120 questions in 120 minutes, except for orthopedically/visually impaired candidates, who would be given 40 extra minutes, for marking correct responses on the OMR sheet.
5. The question paper booklet has 20 pages.
6. The candidates, when allowed to open the question paper booklet, must first check the entire booklet to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should IMMEDIATELY bring this fact to the notice of the Invigilation Staff and obtain a new booklet of the same series as given earlier.
7. The serial number of the new Question booklet if issued for some reason should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of Question booklet.
8. The paper consists of total 480 Marks. Each question shall carry 4 marks. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet.
9. There is negative marking (1 mark for each question) for questions wrongly answered by the candidate.
10. Use of Electronic/Manual Calculator is prohibited.
11. The candidate MUST READ INSTRUCTIONS BEHIND THE OMR SHEET before answering the questions and check that two carbon copies attached to the OMR sheet are intact.

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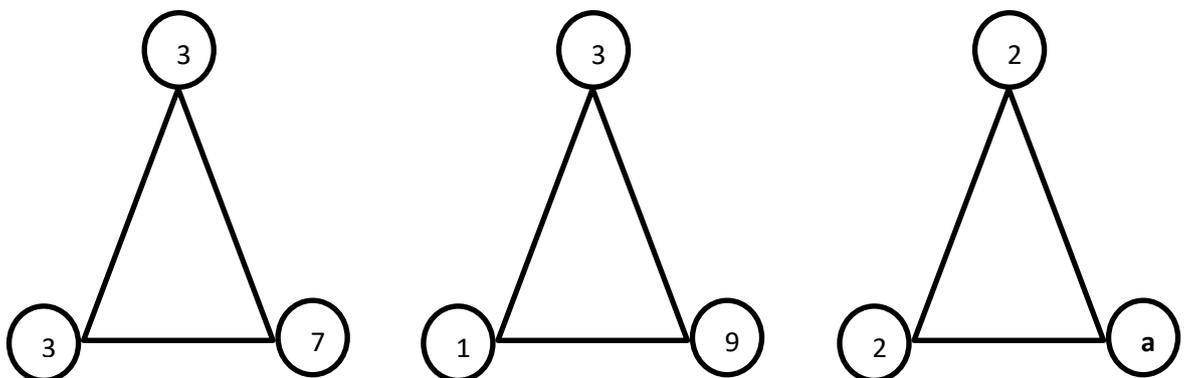
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- $Q - R + S \% P$
 - $S \$ P - R + Q$
 - $S - Q \$ P + R$
 - $P - S \$ R \% Q$
15. Neelaksh has a collection of coins of 50p, 25p, 10p and 5p. They are present in the ratio of 1:2:2:6. He knows that the total amount with him is Rs. 330. How many more coins of 5p are there than that of 50p?
- 220
 - 500
 - 550
 - 1100
16. A, B and C can walk at the rates of 3, 4 and 5 km an hour respectively. They start from Poona at 1, 2, 3 o'clock respectively. When B catches A, B sends him back with a message to C. When will C get the message?
- 5.15
 - 5.20
 - 5.30
 - 6.00
17. A worldwide ban on the production of certain ozone-destroying chemicals would provide only an illusion of protection. Quantities of such chemicals, already produced, exist as coolants in millions of refrigerators. When they reach the ozone layer in the atmosphere, their action cannot be halted. So, there is no way to prevent these chemicals from damaging the ozone layer further. Which of the following, if true, most seriously weakens the argument above?
- In modern societies, refrigeration of food is necessary to prevent unhealthy and potentially life-threatening conditions
 - Replacement chemicals that will not destroy ozone have not yet been developed and would be more expensive than the chemicals now used as coolants in refrigerators
 - Even if people should give up the use of refrigerators, the coolants already in existing refrigerators are a threat to atmospheric ozone.
 - The coolants in refrigerators can be fully recovered at the end of the useful life of the refrigerators and reused
18. Vertices of a quadrilateral ABCD are A(0, 0), B(4, 5), C(9, 9) and D(5, 4). What is the shape of the quadrilateral?
- square
 - rectangle (not square)
 - rhombus
 - parallelogram (not rhombus)

19. A merchant has 100 kgs of rice, part of which he sells at 7% profit and the rest at 17% profit. He gains 10% on the whole. Find how much is sold at 7% profit?
- 50kgs
 - 70kgs
 - 40kgs
 - 30kgs
20. If x , y and z are non-zero numbers such that $1 \geq y > x$ and $xy = z$, which of the following CANNOT be true?
- $y > z$
 - $y = z$
 - $z = x$
 - $x > z$
21. Who among the following was famous for his contribution to spread of science education in colonial Punjab?
- Nand Lal Bose
 - Ruchi Ram Sahni
 - Ram Singh
 - Sir Ganga Ram
22. Who was the leader of the Vaikom Satyagraha?
- Satyamurti
 - T. K. Madhavan
 - Balwant Phadke
 - T. T. Krishnamachari
23. In reference to 4D printing and its application for tissue engineering, which of the following is not correct?
- 4D printing involves production of complexes/structures with specific permanent shapes for potential application for tissue engineering
 - 4D printing involves production of complexes/structures with specific dynamic shapes which may undergo morphological changes, and have potential for application for tissue engineering
 - 4D printing strategies have the potential for the fabrication of complex multilayer tissue constructs which may find applications for tissue engineering
 - 4D printing involves production of complexes/structures with specific shapes which are responsive to environmental stimuli in a preplanned way, and have potential for application for tissue engineering
24. Consider the following statements regarding “Quantum computing”
- It is the phenomena of quantum mechanics in computation to solve certain problems
 - It is relatively slower than classical computing
 - Quantum Byte is the unit in Quantum computers
 - David Deutsch is the father of Quantum computing
- Which of the above statement(s) is/are correct?
- 2 and 4
 - 1 and 3
 - 2 and 3
 - 1 and 4

25. The first neural network computer was built by:
- Einstein
 - Bose and Einstein
 - Marvin Minsky and Dean Edmonds
 - Cooper
26. The strategically significant Chabahar region is located in:
- Iran
 - Pakistan
 - Afghanistan
 - Aksai China
27. Right to clean environment is guaranteed by
- Article 14 of the constitution of India
 - Article 19 of the constitution of India
 - Article 21 of the constitution of India
 - Article 25 of the constitution of India
28. Consider the following statements:
- Pushpa Dahal 'Prachanda' has been appointed Nepal's Prime Minister for the Third Time
 - Prachanda has support of 156 lawmakers in the 257-member House of Representatives
 - President of Nepal is Bidya Devi Bhandari
 - Pushpa Dahal 'Prachanda' has succeeded Girija Prasad Koirala
- Which of the above statements are correct?
- 1 and 2 only
 - 1 and 3 only
 - 1, 2 and 3 only
 - 1,2, 3 and 4
29. Consider the following statements
- The FIH men's World Cup is scheduled from January 13 to 29, 2023 in Bhubaneswar-Rourkela, Odisha
 - Harmanpreet Singh has been named as the captain of the Indian squad for the FIH Men's Hockey World Cup 2023
 - Reliance Industries signed a Memorandum of Understanding (MoU) with Hockey India to become an official partner of the FIH Odisha Hockey Men's World Cup 2023
 - Head coach of the Indian squad for FIH Men's Hockey World Cup 2023 is Graham Reid who is a former Australian field hockey player who played as a defender and midfielder for the Australian national team
- Which of the above statements are correct?
- 1,2 and 3 only
 - 2,3 and 4 only
 - 1,2 and 4 only
 - 1,3 and 4 only

30. Golden Handshake Scheme is linked with:

- a) Establishing joint enterprises
- b) Inviting foreign companies
- c) Private investment in public enterprises
- d) Voluntary Retirement

31. Which of the following does NOT qualify as a crime committed online?

- a) refusal of service
- b) Man in the middle
- c) Phishing
- d) AES

32. In view of invoking which Section of IT Act, 2000, Indian Government banned TikTok and other 59 Chinese mobile apps

- a) Section 66A
- b) Section 66F
- c) Section 72A
- d) Section 69A

33. A common protocol used in VoIP technology, SIP is

- a) Session Initiation Protocol
- b) Secured Initiation Protocol
- c) Secure Initiation Protocol
- d) Session Integration Protocol

34. Session hijacking attack is the

- a) IP hacking
- b) IP spooling
- c) IP spoofing
- d) IP tracking

35. Which of the following is not a reconnaissance tool or technique for information gathering?

- a) Hping
- b) NMAP
- c) Google Dorks
- d) Nexpose

36. Which of the following is the port number for SMTP service?

- a) Port 29
- b) Port 27
- c) Port 25
- d) Port 23

37. According to Section 70 of The Information Technology Act, access or attempt to access by any unauthorized person, a protected computer system as notified by the Government in the Official Gazette where punishment may extend up to 10 years and fine is:
- Cognizable, Bailable
 - Non-Cognizable, Bailable
 - Cognizable, Non-Bailable
 - Non- Cognizable, Non-Bailable
38. What does CCFP mean?
- Cyber Certified Forensics Professional
 - Certified Cyber Forensics Professional
 - Cyber Criminal Finding Process
 - Cyber Certified Forensics Program
39. Identify the steps of digital forensics:
- Identification, Preservation, Reporting, Analysis
 - Analysis, Preservation, Documentation, reporting
 - Identification, Preservation, Analysis, Documentation
 - Analysis, Identification, Preservation, Documentation
40. Extracting data file out of undifferentiated blocks is called as _____. Identifying and recovering files based on analysis of file formats is known as _____.
- file retrieval, data recovery
 - data carving, files recovery
 - file carving, data carving
 - None of the above
41. Incident Response Lifecycle has the following 6 phases. Arrange in proper order the Incident Response Steps and choose the correct option:
- Recovery from incidents, including restoration of systems
 - Eradication of attackers and re-entry options
 - Lessons learned and application of feedback to the next round of preparation
 - Identification of incidents
 - Preparation of systems and procedures
 - Containment of attackers and incident activity
- E,D,F,B,A,C
 - F,A,B,E,C,D
 - A,B,C,D,E,F
 - A,C,B,E,D,F
42. Which of the following is not true about DDoS attacks?
- Multiple computers (hacked ones) send large number of request packets to a target server or system.
 - Used to gain unauthorized access to systems.
 - Only the spoofed request packets are processed and not the legitimate one.
 - DoS attack uses a single computer whereas DDoS attack uses multiple computers.

43. What database service needs to be started and initialized to use the metasploit console?
- a) MySQL
 - b) Oracle
 - c) PostgreSQL
 - d) MariaDB
44. What command is used to clear event logs in meterpreter?
- a) Clearev
 - b) Eventcts
 - c) download
 - d) getprivs
45. Cross Tool Validation in mobile forensics states
- a) Usage of multiple forensics tool for extraction
 - b) Usage of Open source tool in validation
 - c) Usage of single product tool for confirming the identification of others
 - d) None
46. Scanning is performed in which stage of pen test?
- a) Reconnaissance
 - b) Pre-Attack
 - c) Post-Attack
 - d) Attack
47. In which type of attack are passwords never cracked?
- a) Brute-Force Attack
 - b) Replay Attack
 - c) Cryptography Attack
 - d) Meet in The Middle Attack
48. MAC address spoofing is which type of attack?
- a) Authentication
 - b) Encryption
 - c) Brute-force
 - d) Social engineering
49. Which of the following is a tool for performing foot printing undetected?
- a) Traceroute
 - b) Whois search
 - c) Ping sweep
 - d) Host Scanning
50. Which tool will only work on publicly traded companies?
- a) Nslookup
 - b) Edgar
 - c) Netcraft
 - d) Whois

51. Network administrators can create their own ACL rules based on _____ , _____ and _____
- a) Address, Protocols and Packet attributes
 - b) Address, Protocols and security policies
 - c) Address, policies and Packet attributes
 - d) Network topology, Protocols and data packets
52. Kismet is a/an
- a) Antivirus software
 - b) Anti spyware software
 - c) Wireless network hacking tool
 - d) None of the mentioned
53. Packet filtering firewalls work effectively in _____ networks.
- a) very simple
 - b) smaller
 - c) large
 - d) very large complex
54. What does W32/Sober-Z do to your System?
- a) Delete all accounts
 - b) Encrypt the Hard Disk
 - c) Downloads code from Internet
 - d) Removes hard Drive partitions
55. A virus that mutates into a new form on every new host to prevent detection is:
- a) Stealth virus
 - b) Parasitic Virus
 - c) Polymorphic virus
 - d) Replicating virus
56. Router works in the following layer of OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
57. Proxy firewall filters the content at which layer of the OSI model?
- a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer
58. Which one of the following layer is responsible for forwarding frames from one node to another node?
- a) Transport Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Application Layer

59. The number of digits in IMSI block is
- a) 10
 - b) 16
 - c) 15
 - d) 20
60. The outside network calls are routed to
- a) BSC
 - b) PSTN
 - c) MSC
 - d) HLR
61. Which software can get back the mobile data?
- a) Doc forensic
 - b) Q-Pass Forensic
 - c) Oxygen Forensic Suite
 - d) Pass Forensic Suits
62. Which one of the following is NIST compression standard for finger print?
- a) Huffman Code
 - b) Run-Length Code
 - c) JPEG compression
 - d) Wavelet Compression
63. Mobile tele cell smartphone working structures include open _____ that or can be prone to special attacks.
- a) OS
 - b) APIs
 - c) Keyloggers
 - d) Spyware
64. _____ consists of a big array of configuration records for the structures, inclusive of hardware and software program settings.
- a) HKEY CLASSES ROOT
 - b) HKEY CURRENT USER
 - c) HKEY LOCAL MACHINE
 - d) HKEY CURRENT CONFIG
65. Which of the subsequent application is administered to look at community traffic?
- a) Net dump
 - b) TCP dump
 - c) Slack dump
 - d) Core dump
66. The well known laptop application which presents cryptographic privateness and authentication for data communication, primarily based totally on a public-key encryption set of rules is:
- a) PGP
 - b) TGEP
 - c) GPP
 - d) CGE

67. Provenance in virtual forensics is
- a) The area of a document at the document system
 - b) The custody of a bit of evidence
 - c) The is part of France wherein Locard comes from
 - d) The beginning of the evidence
68. _____ programs assist users in system maintenance task.
- a) Translating
 - b) Library
 - c) Utility
 - d) Language processor
69. Voice-band channel has speed up to _____ baud.
- a) 300
 - b) 512
 - c) 9600
 - d) 1 million
70. A _____ operates at top three layers (session, presentation and application) of the OSI model.
- a) Bridge
 - b) Router
 - c) Gateway
 - d) Modem
71. How many rounds does the AES perform when key length is 192 bit?
- a) 10
 - b) 12
 - c) 14
 - d) 16
72. Another name for Message authentication codes is
- a) Cryptographic code-break
 - b) Cryptographic code-sum
 - c) Cryptographic check-sum
 - d) Cryptographic check-break
73. What is foot printing?
- a) Accumulation of data by gathering information on a target
 - b) Mapping the physical layout of a target's network
 - c) Measuring the shoe size of an ethical hacker
 - d) Scanning a target network to detect operating system types

74. Which of the following is a type of social engineering?
- a) User authentication
 - b) System monitoring
 - c) Shoulder surfing
 - d) Face-to-face communication
75. What port number does HTTPS use?
- a) 21
 - b) 23
 - c) 80
 - d) 443
76. What is dsniff?
- a) A MAC spoofing tool
 - b) An IP address spoofing tool
 - c) A collection of hacking tools
 - d) A sniffer
77. At what layer of the OSI model is data formatted into packets?
- a) Layer 1 - Physical
 - b) Layer 2 – Data Link
 - c) Layer 3 - Network
 - d) Layer 4 – Transport
78. Which of the following security solutions uses the same key for both encryption and authentication?
- a) WPA
 - b) WPA2
 - c) WEP
 - d) 802.11i
79. The length of IPv4 address is
- a) 4 nibbles
 - b) 8 nibbles
 - c) 16 nibbles
 - d) 32 nibbles
80. The combination of RAM and _____ is known as virtual memory.
- a) Swap Files
 - b) Slack Files
 - c) ROM
 - d) FDD

81. The process of looking for the presence of open, unsecured wireless networks is called
- Wardriving
 - Hotspot driving
 - Wireless hacking
 - Hotspot Hacking
82. CERT stands for
- Computer Emergency Response Team
 - Computer Emerging Response Team
 - Computer Emergency Ready Team
 - Computer Emerging Response Target
83. _____ usually implies entry into the building or security area with consent of an authorized person.
- Tailgating
 - Eavesdropping
 - Dumpster diving
 - Piggybacking
84. _____ means a person who has been granted a licence to issue a electronic signature certificate.
- Certifying Authority
 - Certifying Private Key Authority
 - Certifying system controller
 - Appropriate Authority
85. Which of the following file provides a command prompt when booting to MS-DOS?
- Boot.ini
 - BootSect.dos
 - Config.sys
 - Command.com
86. Digital _____ consists in hiding a mark or a message in a picture in order to protect its copyright.
- Watermarking
 - Steganography
 - Forensic
 - Cryptography
87. In _____ one or more regions are repeated at different locations within the same image.
- Splicing
 - Retouching
 - Copy-Move
 - Panaroma

88. Child pornography is an offence under section _____ of IT Act 2000.
- a) 67 A
 - b) 67 B
 - c) 67 C
 - d) 67 D
89. Which Section of the IT Act deals with cyber terrorism?
- a) 66 C
 - b) 66 B
 - c) 66 D
 - d) 66 F
90. Cyber-squatting is associated with
- a) Domain Name Dispute
 - b) IP addressing dispute
 - c) e-mail dispute
 - d) Password dispute
91. Sending of unsolicited bulk and commercial messages over the internet is
- a) Stalking
 - b) Phishing
 - c) Spamming
 - d) Spoofing
92. An example of social engineering is
- a) Viruses
 - b) Worms
 - c) Telephone IVR Phishing
 - d) Trojan Horses
93. Which of the following is considered as the world's first antivirus program?
- a) Creeper
 - b) Reaper
 - c) Tinkered
 - d) Ray Tomlinson
94. Which social media giant has launched the "She Means Business" initiative for women entrepreneurs in Odisha?
- a) Facebook
 - b) Twitter
 - c) LinkedIn
 - d) Pinterest

95. Space that a file does not use up inside a cluster is called
- a) Slack space
 - b) Swap space
 - c) Unallocated space
 - d) Allocated space
96. In terms of digital evidence, a hard drive is an example of
- a) Open computer systems
 - b) Communication systems
 - c) Embedded computer systems
 - d) None of the above
97. What is the first phase of hacking?
- a) Maintaining access
 - b) Gaining access
 - c) Reconnaissance
 - d) Password cracking
98. In Cloud computing, PaaS stands for
- a) Platform as a Service
 - b) Platform as a Survey
 - c) People as a Service
 - d) Platform as a Survey
99. Zigbee specification is based on
- a) IEEE 802.3
 - b) IEEE 802.11
 - c) IEEE 802.16
 - d) IEEE 802.15.4
100. _____ empowers IoT by bringing together everyday objects.
- a) Intelligence
 - b) Connectivity
 - c) Dynamic Nature
 - d) Enormous Scale
101. What file system does Windows 10 use?
- a) FAT
 - b) FAT32
 - c) NTFS
 - d) HPFS
102. Which partition type is used to boot Intel-based Apple machines?
- a) GUID
 - b) APM
 - c) MBR
 - d) HFS

103. Each directory entry in a FAT file system is ____ bytes in length.
- a) 0
 - b) 8
 - c) 16
 - d) 32
104. What is the area between the end of a file's logical size and the file's physical size called?
- a) Unused disk area
 - b) Unallocated clusters
 - c) Unallocated sectors
 - d) Slack space
105. When the letter "B" is represented as 41h, it is displayed in
- a) Hexadecimal
 - b) ASCII
 - c) Binary
 - d) Decimal
106. What is the decimal integer value for the binary code 0000-1001?
- a) 7
 - b) 8
 - c) 9
 - d) 1001
107. The Windows operating system uses a file name's _____ to associate files with the proper applications.
- a) Signature
 - b) MD5 hash value
 - c) Extension
 - d) Metadata
108. What is the maximum number of drive letters assigned to hard drive(s) partitions on a system?
- a) 04
 - b) 16
 - c) 24
 - d) Infinity
109. The smallest area on a drive that data can be written to is a _____ while the smallest area on a drive that a file can be written to is a _____.
- a) Bit, byte
 - b) Sector, cluster
 - c) Volume, drive
 - d) Memory, disk

110. What is found at Cylinder 0, Head 0, Sector 1 on a hard drive?
- Master boot record
 - Master file table
 - Volume boot record
 - Volume boot sector
111. IDE, SCSI, and SATA are different types of interfaces describing what device?
- RAM chips
 - Flash memory
 - CPUs
 - Hard drives
112. "Guidelines for identification, collection, acquisition, and preservation of digital evidence" is dictated by
- ISO/IEC 27037
 - ISO/IEC 27000
 - ISO/IEC 27001
 - None of the above
113. A valid definition of digital evidence is
- Data stored or transmitted using a computer
 - Information of probative value
 - Digital data of probative value
 - Any digital evidence on a computer
114. _____ is a utility native to Windows systems that display information about NICs, their status, physical address, DHCP etc.?
- Ipconfig
 - Ifconfig
 - Ip
 - All of the above
115. The criminological principle which states that, when anyone, or anything, enters a crime scene, he/she takes something of the scene with him/her, and leaves something of himself/herself behind, is
- Locard's Exchange Principle
 - Differential Association Theory
 - Beccaria's Social Contract
 - None of the above
116. The trailer is added only at
- Physical Layer
 - Data Link Layer
 - transport Layer
 - Network LAYER

117. In encapsulation, the data portion of a packet at level N - 1 carries the whole packet from level
- a) N
 - b) N+1
 - c) N+2
 - d) N+3
118. The both TCP and SCTP protocols are
- a) Connection less
 - b) connection oriented
 - c) start but no ending
 - d) None of the above
119. Hackers who help in finding bugs and vulnerabilities in a system & don't intend to crack a system are termed as
- a) Black Hat hackers
 - b) White Hat Hackers
 - c) Grey Hat Hackers
 - d) Red Hat Hackers
120. A digital signature needs a
- a) Private-key system
 - b) Shared-key system
 - c) Public-key system
 - d) All of them

SPACE FOR ROUGH WORK