CREST Cyber Olympiad (CCO)

Sample Paper

Pattern and Marking Scheme				
Grade	Topic/Section	No. of Questions	Marks per Question	Total marks
Grade 6	Computer & IT	40	1	40
	Achiever's Section	10	2	20
Grand Total		50		60

The total duration of the exam is 60 minutes.

Syllabus

Section 1: Computer & IT

1. **Computer and Number System**
   - Hardware and Software
   - Input and Output Devices
   - Primary and Secondary Memory
   - Memory units
   - RAM/ROM, Solid State Drive (SSD) and Hard Disk Drive (HDD)
   - Computer Language & 0/1
   - Binary and Decimal number system

2. **MS Word**
   - Creating and applying styles for consistent text formatting
   - Using tables, indents, footers/headers, page numbers, and hyperlinks
   - Document Collaboration: Cloud-based tools like Google Docs for real-time collaboration, Commenting, Editing and Reviewing documents

3. **MS PowerPoint**
   - Adding advanced animations, transitions, and multimedia elements (Videos, Audio)
   - Inserting charts and tables to present data
   - Creating consistent slide designs with master slides and themes

4. MS Excel
- Intermediate to Advanced Functions: Using basic formulas like SUM, AVERAGE, COUNT, COUNTA, MAX, MIN
- Conditional formatting and simple data validation
- Creating charts and graphs to visualize data

5. Troubleshooting
- Identifying hardware/software problems using basics
- Application freezes: Quitting and restarting
- Common browser issues: Clearing cache, refreshing pages, and checking the internet connection
- Basic Network Troubleshooting: Internet not working, Checking Wi-Fi connectivity and resetting the router, Identifying weak Wi-Fi signals

6. Network and Communication
- Topology: BUS, STAR, MESH, RING, TREE, HYBRID
- Communication: Asynchronous Communication
- Cloud Computing and File Sharing
- Email and Creating an Account

7. Programming With Scratch
- Block-based Coding
- Data Types: Numbers, Words, Yes/No (True/False)
- Loops (Repetition)
- Conditional Statements (If/Else)
- Introduction to Python

8. Cyber Safety and Internet
- Types of browsing: WWW, HTTP, HTTPS, FTP, SFTP
- Site-specific searches: site:edu site:gov; Use of filters for images, videos, or date ranges
- Recognizing and avoiding fake browsing

9. Robotics and Artificial Intelligence
- Sensors and Feedback Systems in Robotics: proximity sensors, light sensors, temperature sensors, Tactile sensor
- Robots and Self-Driving Vehicles

10. Latest Developments in the Field of IT
- Different Types of AI: Helpful Assistants (Alexa, Siri), Recommendation Systems (Netflix, YouTube, Spotify), Image Recognition (Google Lens)
- Thinking Hats (Black hats, White hats, Grey hats, Green hats, Blue hats, Red hats, Purple hats, Nation-state hackers, Script kiddies)
- Processors (Intel, AMD, Nvidia, Qualcomm, MediaTek, Huawei, Samsung and Apple)

Section 2: Achievers Section

Higher Order Thinking Questions - Syllabus as per Section 1.

Questions are based on Windows 11 and MS Office 2016.

For more details, visit https://www.crestolympiads.com/cyber-olympiad-cco

1. Which of these will you categorise as a multimedia software?

a.

b.

c.

d.

2. What is the purpose of sharing a network?

   a. Sharing software and resources
   b. Changing software
   c. Compiling programs
   d. Starting our computer system.

3. Fill in the blank:
   You would use _____ software to create spreadsheets, type documents and edit photos.

   a. application
   b. utility
   c. system
   d. operating system

4. Identify the MS Word command from the icon given below:

   a. Thesaurus
   b. Grammar check
   c. Spelling check
   d. Translation

5. Fill in the blanks:
   The Windows Start menu is split into _____ different areas. The white area on the left is for _____ that you have installed on your computer.

   a. three, Windows Utilities
   b. two, Windows Utilities
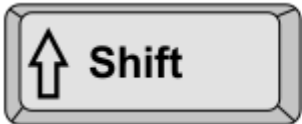   c. three, Software Programs
   d. two, Software Programs

6. Complete the following sentence:
   A website is a collection of web pages. A homepage of a website is_____.

   a. an index of encyclopedia articles
   b. where all internet data is stored
   c. required for access to the internet
   d. the first page of a website

7. Fill in the blank:

If you have a PowerPoint presentation created by you and you have to send using email to your teacher, you can add this to your email message as a/an_____.

    a. inclusion   b. attachment

    c. reply   d. forward

8. In which of the following topology, each node has a dedicated point-to-point link to every other device?

    a. Star   b. Mesh

    c. Ring   d. Network

9. Which of the following network discovery states will you set to prevent your computer from seeing other network computers and devices, and to prevent people on other network computers from seeing your computer?

    a. Hide   b. Custom

    c. On   d. Off

10. Which of the following involves binary processing without the user seeing it?

    a. Controlling a oven   b. Using a mechenical pen

    c. Using a video editing software   d. Sketching using a digital pen

11. Which memory is responsible for booting your computer when it is switched on?

    a. Volatile memory   b. Non-volatile memory

    c. Temporary storage   d. Random Access Memory

12. Why might someone choose to update a style instead of manually editing each text section?

    a. It saves memory   b. It makes text shorter

    c. It applies changes to all   d. It changes the language

13. Which of these is NOT a benefit of using styles?

    a. Consistency   b. Efficiency

    c. Speed   d. Random formatting

14. In a shared document, Tina wants to give feedback without affecting the original content. Which mode should she use?

    a. Comment Mode   b. Edit Mode

    c. View Mode   d. Suggesting Mode

15. A chart in your slide looks squeezed. What might you have missed?

    a. Legend insertion   b. Slide transition

    c. Proper resizing   d. Using table instead

16. A presenter wants to apply the same data-driven design across multiple charts without altering each one manually. What should be used?

    a. Table Tools   b. Chart Templates
    c. Slide Master   d. Morph Transition

17. Which formula will give the average of scores in G2, G3, G4, G5?

    a. AVERAGE(G2, G3, G4, G5)   b. SUM(G3+G4+G5)
    c. SUM(G3:G5)/3   d. AVERAGE(G2:G5)

18. To group and summarise large data sets into categories with subtotals, you should use:

    a. Data Table   b. Pivot Table
    c. Subtotal Tool   d. Filter

19. Which table feature allows you to sort and filter data easily in Excel?

    a. Data Bar   b. Table Format
    c. Drop-down List   d. Chart Style

20. The computer works, but the mouse pointer is stuck. Which is most likely the problem?

    a. Email is not sent   b. Incorrect password
    c. Word file is too long   d. Hardware mouse issue

21. What shortcut opens Task Manager directly in Windows?

    a. Ctrl + Alt + Delete

    b. Shift + Alt + Esc

    c. Ctrl + Shift + Esc

    d. Alt + Shift + Esc

22. How does Task Manager help prevent future app crashes?

a. It can uninstall apps directly.
b. It adds more RAM automatically.
c. It repairs the system registry.
d. It helps monitor performance and resource use.

23. You're using your neighbour's shared Wi-Fi legally, but now the signal is weak. What might help?

a. Lower the device volume
b. Use a Wi-Fi range extender
c. Change the screen background
d. Switch off antivirus

24. In which situation do participants need to be present at the same time?

a. Sending a recorded video
b. Replying to a forum post
c. Attending a live online class
d. Uploading homework online

25. To create a blinking effect on a sprite's face, which block combo is best?

a. repeat 10 + change costume
b. forever + wait + next costume
c. if + change color effect
d. broadcast + show

26. Why might a sprite not move even after using a 'move 10 steps' block in Scratch?

a. The sprite is hidden
b. The sprite is rotated upside-down
c. The sprite's direction is set to 0
d. The sprite is on the edge and stuck

27. In Scratch, how can you open a project you saved last week?

a. Click on File > Load from computer
b. Click on Edit > Restore
c. Click on Share > See inside
d. Click on Save now

28. You want to make a spiral with growing gaps. Which command should change inside the loop?

a. Move steps should increase each time
b. Use 'Go to' instead of move
c. Pen size should decrease
d. Sprite rotation should be fixed

29. Which domain ending is used by official Indian government websites?

a. .com
b. .org.in
c. .gov.in
d. .edu

30. If cookies are disabled in your browser, what might stop working properly?

a. Bookmarks
b. Browsing speed
c. Website login sessions
d. Search engine results

31. Which of the following can cookies not do?

a. Store shopping cart items
b. Remember website preferences
c. Run programs
d. Track your login state

32. Meena used private mode to log in to her email. After closing the browser, she forgot to log out. What will happen?

a. Her email data is saved
b. Her account stays logged in
c. She will get notified by email
d. All her login data is cleared

33. A warehouse robot adjusts its grip strength depending on the object's surface it senses. Which sensor aids this feedback?

a. Proximity sensor
b. Tactile sensor
c. Light sensor
d. Temperature sensor

34. Why would a robot need a temperature sensor in a food storage unit?

a. To control humidity
b. To detect fire
c. To maintain correct storage temperature
d. To track light levels

35. Which of these best describes a feedback system?

a. A battery-powered motor
b. A sensor controlling action based on input
c. A switch turning lights on
d. A gearbox

36. Which feature helps a self-driving car identify a stop sign on the road?

a. It waits for driver instructions
b. Its GPS device
c. Its camera and image recognition
d. Its Speed

37. Which hacker is mostly defensive and focuses on stopping attacks using law enforcement strategies?

a.

Red hat hacker

b.

Purple hat hacker

c.

Green hat hacker

d.

Blue hat hacker

38. Which hacker is motivated by patriotism and may attack foreign sites on behalf of their government?

a.

Nation-state hacker

b.

Red hat hacker

c.

Green hat hacker

d.

Black hat hacker

39. Which processor brand designs chips only for its own phones and tablets, like the A-series chips?

a.

b.

c.

d.

40. A developer needs strong processing power for AI modelling. Which company's processors are most preferred for AI and GPU tasks?

a.

b.

c.

d.

41. What is the main role of a domain name on the internet?

    a. It protects your device from viruses   b. It identifies a specific IP address

    c. It provides wireless access   d. It compresses data for websites

42. Who among the following best describes the term "Server"?

Antony: It is the part of graphic design that deals in the arrangement of visual elements on a page.

Tom: It is the structure of the network of how all the components are interconnected to each other.

Oersted: It is an agreement between two people or groups about how something happens or will happen.

Pamela: It is a computer program or a device that provides functionality for other programs or devices.

    a. Pamela   b. Antony

    c. Tom   d. Oersted

43. Byte is the standard unit of memory measurement. A byte consists of how many bits?

    a. One bit   b. 8 bits

    c. 4 bits   d. 16 bits

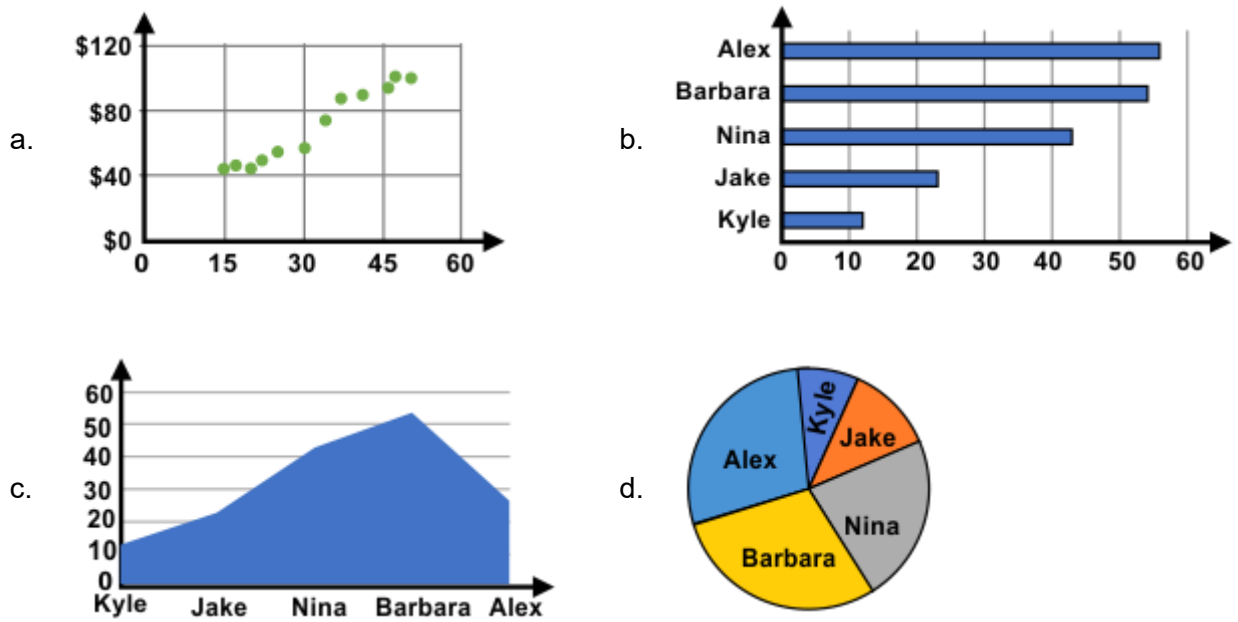**44.** What is the best way to ensure every team member can access the document but only suggest changes?

    a. Give them Viewer access   b. Share with Edit rights

    c. Share with Comment access   d. Turn on Public Sharing

45. To add narration that plays throughout your presentation, where do you go?

    a. Transitions Tab   b. Insert Tab > Audio

    c. Animations Tab   d. Slide Show > Use Timings
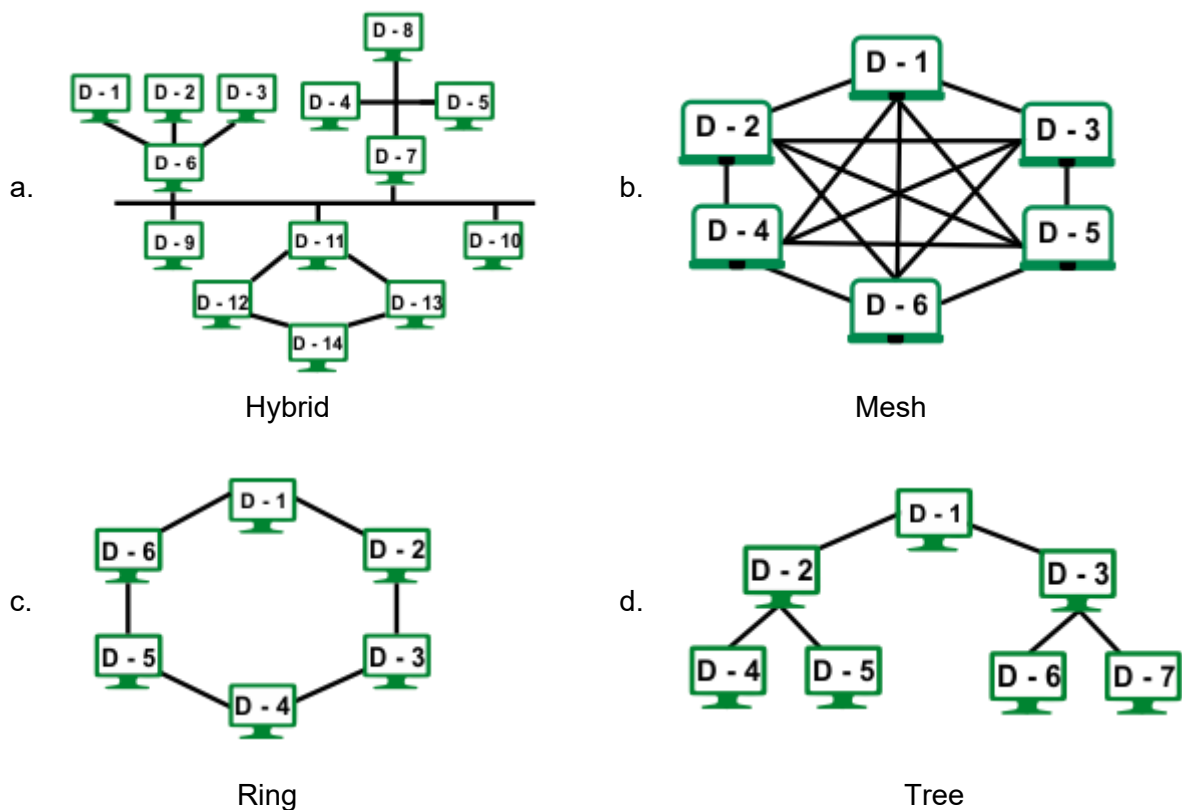
46. When plotting age vs height data of students, which chart is most suitable?

a.

b.

c.

d.

47. Your desktop makes beeping sounds and doesn't boot. What could be the issue?

a. Old antivirus update
b. Corrupted Word file
c. Unsent email
d. Loose RAM stick

48. A company's network combines both star and bus topologies. What is this type of setup called?

a.

Hybrid

b.

Mesh

c.

Ring

d.

Tree

49. A student wants the sprite to draw a square starting from its current position. After using the 'pen down' block, what should be the best approach to repeat moving and turning commands?

    a. Repeat 3 times: move 100 steps, turn 90 degrees
    b. Repeat 4 times: move 100 steps, turn 90 degrees
    c. Repeat 5 times: move 100 steps, turn 72 degrees
    d. Repeat 4 times: move 50 steps, turn 45 degrees

50. A student tries to access a website but sees an error about an insecure connection. Which protocol is likely causing this issue?

    a. https://   b. Sftp://
    c. http://   d. ftp://

Answer Key

1.	d	2.	a	3.	a	4.	a	5.	d	6.	d	7.	b
8.	b	9.	d	10.	c	11.	b	12.	c	13.	d	14.	d
15.	c	16.	b	17.	d	18.	b	19.	b	20.	d	21.	c
22.	d	23.	b	24.	c	25.	b	26.	d	27.	a	28.	a
29.	c	30.	c	31.	c	32.	d	33.	b	34.	c	35.	b
36.	c	37.	a	38.	a	39.	c	40.	b	41.	b	42.	a
43.	b	44.	c	45.	b	46.	a	47.	d	48.	a	49.	b
50.	c												