



CS101

Quiz for Mid-Term

ABSTRACT

This comprehensive collection of notes is accurately crafted to empower students to excel academically, ensuring they achieve a minimum of 80% marks in their examinations. The content is organized with clarity and precision, focusing on key concepts, critical analyses, and practical applications tailored to the syllabus. These notes serve as a reliable resource for both thorough preparation and last-minute revision. Designed to inspire confidence and mastery, this guide is an essential tool for students striving for academic excellence.

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Introduction to Computing

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1. How are hypertext documents typically transferred between browsers and web browsers? (**HyperText Transfer Protocol — HTTP**)
2. In non-privileged mode, what instructions does the CPU have access to? (**Limited and acceptable instructions**)
3. What is the purpose of the “Try It Yourself” button on the W3Schools platform? (**It displays the output of the HTML code on the right side of the code**)
4. What does the scheduler maintain as a block of information about all processes in main memory? (**Process table**)
5. What role did the NNTP protocol play in the early days of the Internet? (**It transferred network news — Network News Transfer Protocol**)
6. Which networking device operates primarily by transmitting signals between signal buses without interpreting the signal's content? (**Repeater**)
7. Which table contains a router's knowledge about the direction in which messages should be sent? (**Forwarding table**)
8. What is the Internet? (**A collection of networks constructed by Internet Service Providers / a network of networks**)
9. What does XML stand for? (**Extensible Markup Language**)
10. How much time does the CPU need to fetch an instruction from main memory? (**2 nanoseconds**)
11. What is the value appended to a packet at each IP network layer called? (**Hop count**)
12. How many bits should be left circularly shifted to achieve the same result as a right circular shift of one bit on an 8-bit string? (**7 bits**)
13. What does OSI stand for? (**Open Systems Interconnection**)
14. What is the term for dynamically allocating tasks to processes to ensure efficient usage? (**Load balancing**)
15. If 15 is repeatedly divided by 5, how many times must the operation be performed to reach zero/reduce the value through the repeated steps? (**3 times**)
16. What is an important task performed by an operating system to protect computer resources from unauthorized access? (**Establishing accounts for authorized users**)
17. What is the main purpose of a bridge in a network? (**To connect network segments and filter/forward messages toward their destinations**)
18. Which network configuration/topology is popular in wireless networks where communication is conducted by means of radio broadcasts? (**Star network**)
19. Which computers from the 1940s and 1950s lacked flexibility and efficiency? (**Computers of the 1940s and 1950s**)
20. What is true about TCP in comparison to UDP? (**TCP is more reliable but less efficient**)
21. How much time does the CPU need to fetch an instruction from main memory? (**2 nanoseconds**)
22. How much time does it take to retransmit an instruction from memory? (**2 nanoseconds**)
23. Which FTP component checks incoming files for viruses and blocks infected files? (**FTP proxy server**)
24. What is a right circular shift of three bits on an 8-bit string equivalent to in terms of a left circular shift? (**A left circular shift of 5 bits**)
25. The value of the program counter is an example of a value belonging to which state? (**Process state**)

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26. What is an Internet? **(A collection/network of networks)**
27. Which devices handle the connection between networks to form an Internet? **(Routers)**
28. A process is what type of activity? **(Dynamic activity)**
29. How does multicast differ from unicast in handling data distribution? **(Multicast involves communication with multiple receivers, whereas unicast involves one sender and one receiver)**
30. What term is used for removing a process from the process table? **(Killing)**
31. Which layer divides long messages into smaller segments that are transmitted over the Internet? **(Transport layer)**
32. What is the primary function of Simple Mail Transfer Protocol (SMTP) in the context of email? **(To transfer email messages)**
33. What are the small segments of long messages in computer networks called? **(Packets)**
34. If a process tries to enter a critical region but another process is already using it, what must it do? **(It must wait)**
35. What must the operating system keep track of when controlling access to a printer? **(Whether the printer has been allocated or not)**
36. What is the process of breaking tasks into subtasks that match the available processors called? **(Scaling)**
37. Which protocol/extension is not associated with the transfer of email messages? **(MIME — it is an extension, not an email transfer protocol)**
38. What does multiprogramming implement? **(Time-sharing)**
39. In a time-sharing and multitasking system, the dispatcher divides time into what? **(Time slices)**
40. What does TLD stand for? **(Top-Level Domain)**
41. What technique is used for dynamically allocating tasks to processes to ensure efficient usage? **(Load balancing)**
42. Which protocol helps store email messages on the email server machine while reading them from the server? **(IMAP)**
43. Which protocol is generally used when email is stored on the local computer? **(POP3)**
44. What is sequential transfer of data called? **(Serial communication)**
45. What does CGI stand for? **(Common Gateway Interface)**
46. What method can be used to gain highly privileged access to an operating system? **(Identification/authentication as a superuser or administrator)**
47. What does the processor state include? **(The value of the program counter and the contents of the registers)**
48. What type of streaming allows users to view or listen to media at a time of their choice? **(On-demand streaming)**
49. What protocol is used by Ethernet bus topology for transmitting messages? **(CSMA/CD)**
50. How does a switch differ from a bridge in terms of connectivity? **(A switch connects multiple buses/devices and provides broader connectivity)**
51. What do special-purpose registers in CPUs for multiprogramming store? **(Process-specific memory limits)**
52. What is a URL used for? **(Locating a document/resource on a web server)**
53. What are the two states of a flag in the flag system? **(Set and Clear)**
54. What does a set flag indicate? **(That an instruction/process is already active or in progress)**

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55. What does a clear flag indicate? **(That no instruction is currently active and a new instruction can be given)**
56. What does GUI stand for? **(Graphical User Interface)**
57. Which protocols are primarily involved in exchanging messages between email servers and clients? **(SMTP, IMAP, and POP3)**
58. What is MIME? **(An extension used in email systems, not an email transfer protocol)**
59. What does FIFO stand for? **(First In, First Out)**
60. What does LIFO stand for? **(Last In, First Out)**
61. Which software is used to generate spreadsheets? **(Microsoft Excel)**
62. What is used to view directories or files in Windows? **(Windows Explorer)**
63. What protocol is used for file transfer? **(File Transfer Protocol — FTP)**
64. How many heading levels are available in HTML? **(Six)**
65. Which is the lowest HTML heading level? **(<h6>)**
66. Which is the highest/largest HTML heading level? **(<h1>)**
67. An interrupt transfers control to what within the operating system? **(Interrupt handler)**
68. What type of streaming is widely used for audio and video content? **(Audio and video streaming)**
69. What is an example of audio streaming? **(MP3 and FM radio)**
70. What type of network connects computers over a large geographical area or across the world? **(WAN — Wide Area Network)**
71. What does WAN stand for? **(Wide Area Network)**
72. What network types are mentioned as LAN, MAN, and PAN? **(Local Area Network, Metropolitan Area Network, and Personal Area Network)**
73. Which components were included in the first prototype of the World Wide Web developed by Tim Berners-Lee? **(Hypertext documents and a network protocol)**
74. Who developed the World Wide Web? **(Tim Berners-Lee)**
75. What is HTML? **(HyperText Markup Language)**
76. What is HTML used for? **(Representing/structuring text documents and their appearance as a markup-based document)**
77. What does NNTP stand for? **(Network News Transfer Protocol)**
78. What does HTTP stand for? **(HyperText Transfer Protocol)**
79. What does XML stand for? **(Extensible Markup Language)**
80. What does SMTP stand for? **(Simple Mail Transfer Protocol)**
81. What does FTP stand for? **(File Transfer Protocol)**
82. What does CGI stand for? **(Common Gateway Interface)**
83. What does OSI stand for? **(Open Systems Interconnection)**
84. What does TLD stand for? **(Top-Level Domain)**
85. What does GUI stand for? **(Graphical User Interface)**
86. What does FIFO mean? **(First In, First Out)**
87. What does LIFO mean? **(Last In, First Out)**
88. If 15 is divided by 5 using repetitive steps, what is the result/number of repetitions? **(3)**
89. If a right circular shift of 3 bits is performed on an 8-bit string, what equivalent left circular shift produces the same result? **(5 bits)**
90. If a right circular shift of 1 bit is performed on an 8-bit string, what equivalent left circular shift produces the same result? **(7 bits)**

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91. Which layer is responsible for dividing long messages into smaller segments? **(Transport layer)**
92. What are those smaller segments of long messages called? **(Packets)**
93. Which layer is used with the transport layer for sending and receiving user messages? **(Application layer)**
94. What does the application layer provide in network communication? **(Applications/services through which users interact with network resources)**
95. What is serial communication? **(Sequential transfer of data, one piece after another)**
96. What is load balancing? **(Dynamically distributing tasks among processes/processors to ensure efficient resource utilization)**
97. What is scaling in the context of task processing? **(Breaking larger tasks into smaller subtasks and matching them with available processors)**
98. What is the difference between load balancing and scaling? **(Load balancing distributes tasks among processors, while scaling breaks tasks into smaller subtasks that can be matched with available processors)**
99. What is the purpose of a forwarding table in a router? **(To maintain information about the direction in which messages should be forwarded)**
100. What is the purpose of a repeater? **(To transmit/regenerate signals between network segments without interpreting their content)**
101. What is the purpose of a bridge? **(To connect network segments and filter/forward messages according to destination addresses)**
102. What is the purpose of a switch? **(To connect multiple network devices/segments and provide connectivity between them)**
103. What is the difference between unicast and multicast? **(Unicast has one sender and one receiver, while multicast sends data to multiple receivers)**
104. What does TCP provide compared with UDP? **(Greater reliability, but generally with less efficiency)**
105. What does IMAP do? **(Stores/keeps email messages on the email server and allows them to be accessed/read from the server)**
106. What does POP3 generally do? **(Retrieves/downloads email messages to the user's computer)**
107. What does MIME do in email communication? **(It is an email extension used to encode/convert non-ASCII or multimedia data into a transferable format)**
108. What is an operating system's role in protecting computer resources? **(It restricts access to authorized users and prevents unauthorized access)**
109. What is a process? **(A dynamic activity)**
110. What is a process table? **(A table containing information about processes in the system)**
111. What is a process state? **(The current state/information of a process, including items such as the program counter and register contents)**
112. What does the program counter contain? **(The value indicating the next instruction to be executed)**
113. What does a CPU save when switching between processes in a multiprogramming system? **(The processor/process state, including the program counter and register contents)**
114. What is a critical region? **(A section of a process where shared resources are accessed and which requires controlled access)**

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115. What happens if a process wants to enter a critical region that is already occupied? **(It must wait until the critical region becomes available)**
116. What is a flag used for in process/resource control? **(To indicate whether a resource or instruction is active/set or inactive/clear)**
117. What is the main purpose of an account in an operating system? **(To provide authorized users with controlled access to computer resources)**
118. What is a web server? **(A server that stores and provides web resources/documents to clients)**
119. What is a URL? **(A Uniform Resource Locator used to locate a resource/document on the Web)**
120. What does URL stand for? **(Uniform Resource Locator)**
121. What is W3Schools used for? **(Learning and practicing web technologies such as HTML)**
122. What does the W3Schools “Try It Yourself” feature do? **(Allows users to enter code and view its output)**
123. What is a WAN used for? **(Connecting computers/networks across a large geographical area)**
124. What is Ethernet? **(A networking technology commonly associated with LANs and bus/star network configurations)**
125. What is CSMA/CD? **(Carrier Sense Multiple Access with Collision Detection)**
126. What is the purpose of CSMA/CD? **(To control access to a shared Ethernet medium and detect collisions during transmission)**
127. What is on-demand streaming? **(Streaming that allows users to access and watch/listen to media at a time of their choice)**
128. What is audio streaming? **(The continuous delivery of audio content over a network, such as MP3 or online radio)**
129. What is video streaming? **(The continuous delivery of video content over a network for viewing)**
130. What was included in the first prototype of the World Wide Web? **(Hypertext documents and a network protocol)**
131. What is the main function of SMTP? **(Sending/transferring email messages)**
132. What is the main function of IMAP? **(Managing and accessing email messages stored on an email server)**
133. What is the main function of POP3? **(Retrieving email messages from a mail server, typically to the user's computer)**
134. What is FTP proxy server used for? **(Checking incoming files and blocking files containing viruses or malicious content)**
135. What is a repeater's main characteristic? **(It retransmits/regenerates signals without interpreting their content)**
136. What is the Internet Service Provider (ISP)? **(An organization that provides Internet access/services and participates in connecting networks to the Internet)**
137. What does ISP stand for? **(Internet Service Provider)**
138. What is the Internet according to the network definition? **(A collection/network of interconnected networks)**

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139. What is a packet? **(A small segment of a larger message transmitted through a computer network)**
140. What is hop count? **(A value used to indicate/count the number of network hops a packet has traversed or can traverse)**
141. What is a dispatcher in a time-sharing system? **(A component that allocates CPU time to processes in short time slices)**
142. What are time slices? **(Short portions of CPU time allocated to processes in a time-sharing/multitasking system)**
143. What is multiprogramming? **(A technique in which multiple programs/processes are kept available for execution, allowing efficient CPU utilization)**
144. What is time-sharing? **(A system in which CPU time is divided into short time slices among processes/users)**
145. What is multitasking? **(The execution/management of multiple tasks by sharing CPU time)**
146. What does an interrupt do? **(It causes the CPU to transfer control to an interrupt handler, typically entering privileged operating-system control)**
147. What is an interrupt handler? **(An operating-system routine that handles an interrupt)**
148. What are special-purpose registers used for in a multiprogramming CPU? **(Storing process-specific memory limits)**
149. What is a flag system? **(A mechanism using states such as set and clear to indicate a condition/status)**
150. What does “set” mean in a flag system? **(The indicated condition is active/true)**
151. What does “clear” mean in a flag system? **(The indicated condition is inactive/false)**
152. What is Microsoft Excel used for? **(Creating and working with spreadsheets and worksheets)**
153. What is Windows Explorer used for? **(Viewing and managing files and directories)**
154. What is the lowest heading level in HTML? **(<h6>)**
155. What is the highest heading level in HTML? **(<h1>)**
156. How many HTML heading levels are there? **(Six: <h1> through <h6>)**
157. What is the correct order of FIFO? **(First In, First Out)**
158. What is the correct order of LIFO? **(Last In, First Out)**
159. What is the difference between FIFO and LIFO? **(FIFO removes the first item entered, while LIFO removes the last item entered)**
160. UTF-8 uses how many bits? **(24–32 bits)**
161. Which encoding is used to store colorful images? **(RGB encoding)**
162. Which machine can be programmed to carry out a complex series of actions automatically or be guided by an external control device? **(Robot)**
163. What is a pixel? **(A collection of dots)**
164. What is a program counter? **(A special-purpose register)**
165. Which architecture philosophy is designed to execute a minimal set of machine instructions? **(RISC – Reduced Instruction Set Computer)**
166. What is used to store and link data in an organized way? **(DBMS – Database Management System)**
167. In hexadecimal notation, how many bits represent a single symbol? **(4 bits)**

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168. Which field determines the number of bits to move the radix point left or right?
(**Exponent field**)
169. Which is NOT a basic Boolean operation? (**NAND**)
170. Which Boolean operators are basic operations? (**AND, OR, NOT**)
171. Which group consists of instructions that tell the control unit to request an activity within the Arithmetic Logic Unit? (**Arithmetic Logic Group**)
172. What are the four basic arithmetic operations? (**Addition, subtraction, multiplication, and division**)
173. Which symbol is used for multiplication? (**Asterisk (*)**)
174. Which symbol is used for division? (**Slash (/)**)
175. Which search query is used to search within a range of numbers? (**Two dots (..)**)
176. In binary, what value does bit 0 represent? (**False**)
177. In binary, what value does bit 1 represent? (**True**)
178. What language does a computer understand? (**Binary language**)
179. What is the output of a NOT operation when the input is 0? (**1**)
180. What is the output of a NOT operation when the input is 1? (**0**)
181. Which operation is used to place zeros in one part of a bit pattern without disturbing the other part? (**AND**)
182. Which operation is used to place ones in one part of a bit pattern without disturbing the other part? (**OR**)
183. Which operator can be used to find the trend of the stock market for a company? (**Stocks operator**)
184. In fractional binary numbers, what do digits to the right of the radix point represent?
(**Fractional part**)
185. In fractional binary numbers, what do digits to the left of the radix point represent?
(**Whole-number part**)
186. What does MIDI stand for? (**Musical Instrument Digital Interface**)
187. What does RISC stand for? (**Reduced Instruction Set Computer**)
188. Which type of search can produce unpleasant results because it may show rashes and allergic skin conditions? (**Skin condition search**)
189. What keeps track of instructions being executed? (**Special-purpose register**)
190. Which encoding can store unique patterns of 21 bits? (**Unicode**)
191. In the binary system, which two values can be used at each position? (**0 and 1**)
192. What do hackers normally add to websites to make them malicious? (**Viruses**)
193. What is considered a character in binary notation? (**Numbers**)
194. How many numbers can be represented with n bits? (**2ⁿ**)
195. Which form eliminates the possibility of multiple representations of the same value?
(**Normalized form**)
196. How many bits do most computers use at least for storing floating-point values? (**32 bits**)
197. What does each sound have? (**A wave**)
198. What are the main components of a CPU? (**ALU, Control Unit, and Registers**)
199. Which hashtag can sometimes be very popular on social media? (**A particular hashtag**)
200. Which format is mostly used in the photography industry? (**JPEG**)
201. What is computer hardware? (**The collection of physical parts of a computer system**)
202. What does DVD stand for? (**Digital Versatile Disc**)

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203. What is a unique rule/name used to identify a location in memory called? (**Address**)
204. Which register acts as a temporary holding place for data being manipulated by the CPU? (**General-purpose register**)
205. What is main memory also called? (**RAM / Random Access Memory / Primary memory**)
206. What does hexadecimal notation use to represent a pattern of four bits? (**A single symbol**)
207. Which instruction code halts the machine cycle? (**C00**)
208. What is the decimal point in a binary fractional number called? (**Radix point**)
209. What is the maximum storage capacity of SDHC mentioned in the lecture? (**32 GB**)
210. Which is a lossless data compression technique? (**Frequency-dependent encoding**)
211. Which instruction is used to communicate with devices outside the CPU? (**I/O instruction**)
212. How is 1/4 represented as a fractional binary number? (**0.01**)
213. How is the appearance of each pixel encoded to store an image in memory? (**Bitmap**)
214. In floating-point notation, if the sign bit is 0, what value is represented? (**Positive**)
215. How many values can one bit contain? (**One value**)
216. What is 1 + 0 in binary addition? (**1**)
217. What is 1 + 1 in binary addition? (**10**)
218. What does a negative exponent mean? (**Move the radix point to the left**)
219. What determines the number of bits by which the radix point is moved? (**Exponent field**)
220. What is 2^0 equal to? (**1**)
221. Which search operator returns only pages where the search term appears in the title? (**intitle:**)
222. What happens due to repeated erasing in flash-drive technology? (**The silicon dioxide layer is slowly damaged**)
223. What type of error occurs in floating-point notation? (**Truncation error**)
224. What is the time required to move the read/write heads from one track to another called? (**Seek time**)
225. What are the three important disk-access times mentioned? (**Access time, seek time, and rotational delay**)
226. Before the stored-program concept, where was data stored? (**Memory**)
227. Before the stored-program concept, where were programs stored? (**As part of the CPU**)
228. What is a query? (**A set of words given to a search engine for searching**)
229. In which instruction is data copied rather than moved? (**Transfer instruction**)
230. What symbol represents the OR operator? (**V / parallel-line OR symbol**)
231. How many representations are there in binary notation with respect to whole and fractional numbers? (**Four**)
232. Which unit transfers data from memory into the general-purpose registers? (**Control Unit**)
233. What should NOT be searched on the internet according to the lecture? (**Pressure cooker bomb story**)
234. What is the diameter of a compact disc? (**12 centimeters**)
235. According to the lecture, which field has most jobs available in Pakistan? (**Computer Science**)

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236. In excess notation, how is zero represented? (**100, 1000, 10000, etc.**)
237. What is the most significant bit/digit? (**The leftmost digit**)
238. Which operation can be used to invert all the bits of an RGB bitmap image? (**XOR – Exclusive OR**)
239. In excess notation, positive numbers start with which digit? (**1**)
240. How many bits are normally required to store a character in computer memory? (**8 bits**)
241. What technology did Herman Hollerith introduce? (**Punched cards**)
242. What is the table used in GIF that can hold up to 256 colors from the RGB color space called? (**Palette**)
243. For high-definition sound recording, how many bits are used per sample? (**16 bits**)
244. For stereo sound, how many bits are used? (**32 bits**)
245. What is the most popular system for representing integers in today's computers? (**Two's complement notation**)
246. How many bits are required in excess-16 notation? (**5 bits**)
247. Which Boolean operation produces the output 1 when the required condition is satisfied? (**OR**)
248. Due to limited computer memory, what additional devices are used for storing data? (**Mass storage devices**)
249. Which device/link can be used to search for an image by giving a query of another image? (**Dedicated web link**)
250. What does CD stand for? (**Compact Disc**)
251. What is the binary representation system based on? (**Two digits: 0 and 1**)
252. Which program is used to access the Internet on a computer? (**Web browser**)
253. What is a bit? (**A basic unit of storage**)
254. Which type of instruction is used to store a bit pattern in the control unit? (**Store instruction**)
255. Which program is used to create a spreadsheet? (**MS Excel**)
256. Which Boolean operator is used to find relevant pages using multiple search terms? (**AND**)
257. Which operator is used to exclude pages containing a particular term? (**NOT**)
258. What is the controller used to access memory called? (**DMA – Direct Memory Access**)
259. How many bits do most computers use for storing floating-point values? (**32 bits**)
260. What type of communication transfers several signals over separate lines simultaneously? (**Parallel communication**)
261. What type of communication transfers signals one at a time over a separate line? (**Serial communication**)
262. Which program allows users to see directories/files directly? (**Windows Explorer**)
263. Which operator is used to find the trend of a company's stock market? (**Stocks operator**)
264. What does WWW stand for? (**World Wide Web**)
265. What is DMA? (**Direct Memory Access**)
266. What does URL refer to? (**The address of an online file/resource**)
267. What is the mentioned transfer speed of USB/fiber? (**700 MB per second**)
268. What does HTTP stand for? (**Hypertext Transfer Protocol**)
269. In hexadecimal notation, how many bits are represented by one symbol? (**4 bits**)
270. What values are represented in hexadecimal notation? (**0 to 15**)

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271. For high-definition sound recording, data from each sample is recorded in how many bits? **(16 bits)**
272. For stereo sound recording, data is recorded in how many bits? **(32 bits)**
273. What is the unique name given to a memory cell for identification? **(Address)**
274. What type of network is the Internet? **(A network of networks)**
275. Which coding technique is frequency-dependent? **(Huffman coding)**
276. What is the correct representation of $1/4$ in binary? **(0.01_2)**
277. What does the leftmost digit represent? **(Most significant bit/digit)**
278. What is the rightmost part after the radix point called? **(Fractional part)**
279. What is the left side of the radix point called? **(Whole-number part)**
280. What does a positive exponent do to the radix point? **(Moves it to the right)**
281. What does a negative exponent do to the radix point? **(Moves it to the left)**
282. What does the sign bit indicate? **(The sign of the number)**
283. What is the value of $1 + 1$ in binary? **(10)**
284. What is the value of $1 + 0$ in binary? **(1)**
285. What does WWW stand for in the context of computer networks? **(World Wide Web)**
286. What does URL stand for? **(Uniform Resource Locator)**
287. What does DMA stand for? **(Direct Memory Access)**
288. What does HTTP stand for? **(Hypertext Transfer Protocol)**
289. What does MIDI stand for? **(Musical Instrument Digital Interface)**
290. What does RISC stand for? **(Reduced Instruction Set Computer)**
291. What does DBMS stand for? **(Database Management System)**
292. What does DVD stand for? **(Digital Versatile Disc)**
293. What does CD stand for? **(Compact Disc)**
294. What does JPEG represent? **(Joint Photographic Experts Group)**
295. What is the full form of RGB? **(Red, Green, Blue)**
296. What is the full form of ALU? **(Arithmetic Logic Unit)**
297. What are the three main CPU components? **(ALU, Control Unit, Registers)**
298. Which register keeps track of the instruction being executed? **(Program Counter)**
299. What is the program counter? **(A special-purpose register)**
300. What is the function of the control unit? **(It controls and coordinates CPU operations)**
301. What is the function of a general-purpose register? **(Temporarily holds data being manipulated by the CPU)**
302. What is a bitmap? **(An image representation in which each pixel is encoded)**
303. What is a pixel? **(A picture element / collection of dots)**
304. What is a palette? **(A table of colors used in formats such as GIF)**
305. What is a query in a search engine? **(A set of words given to a search engine for searching)**
306. Which operator searches for an exact phrase? **(Quotation marks (" "))**
307. Which operator searches for a term in a webpage title? **(intitle:)**
308. Which search query searches a range of numbers? **(Two dots (..))**
309. Which Boolean operation inverts an input? **(NOT)**
310. What does NOT 0 produce? **(1)**
311. What does NOT 1 produce? **(0)**
312. Which operation places zeros in selected bits while preserving the other bits? **(AND)**

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313. Which operation places ones in selected bits while preserving the other bits? (**OR**)
314. Which operation can invert an RGB bitmap? (**XOR**)
315. What is lossless compression? (**Compression that preserves the original data without loss**)
316. Which encoding technique was identified as lossless? (**Frequency-dependent encoding**)
317. What is truncation error? (**An error occurring in floating-point notation**)
318. What is seek time? (**The time required to move the read/write head from one track to another**)
319. What is rotational delay? (**The time waiting for the required sector to rotate into position**)
320. What is access time? (**The time required to access data from storage**)
321. What is the stored-program concept? (**Programs are stored in memory along with data**)
322. What is a transfer instruction? (**An instruction that copies/transfers data**)
323. What is serial communication? (**Communication in which signals are transmitted one at a time**)
324. What is parallel communication? (**Communication in which multiple signals are transmitted simultaneously over separate lines**)
325. What is mass storage? (**Additional storage used because primary computer memory is limited**)
326. What is RAM? (**Random Access Memory**)
327. What is primary memory? (**RAM / Random Access Memory**)
328. What is hardware? (**The physical parts of a computer system**)
329. What is software used to create word documents? (**Microsoft Word**)
330. What type of application is Microsoft Word? (**Word processor**)
331. What type of application is Microsoft Excel? (**Spreadsheet application**)
332. What program is used to browse the Internet? (**Web browser**)
333. What is Windows Explorer used for? (**Viewing and managing files and directories**)
334. What is the diameter of a compact disc? (**12 cm**)
335. What is the maximum storage capacity mentioned for SDHC? (**32 GB**)
336. What is an address in computer memory? (**A unique identifier for a memory location/cell**)
337. What does the Internet mean? (**A network of networks**)
338. What is the most significant bit? (**The leftmost bit**)
339. What is the least significant bit? (**The rightmost bit**)
340. In excess notation, how do positive numbers begin? (**With 1**)
341. How many bits are needed to represent a character normally? (**8 bits**)
342. How many colors can a GIF palette hold? (**256 colors**)
343. How many bits are used for high-definition sound samples? (**16 bits**)
344. How many bits are used for stereo sound? (**32 bits**)
345. What system is commonly used to represent integers in modern computers? (**Two's complement**)
346. How many bits are required in excess-16 notation? (**5 bits**)
347. What does a negative exponent indicate? (**The radix point moves to the left**)
348. What does a positive exponent indicate? (**The radix point moves to the right**)

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349. What does 2^0 equal? **(1)**
350. What does 2^n represent for n bits? **(The number of possible combinations/values: 2^n)**
351. What are the two possible values of a bit? **(0 and 1)**
352. What is the binary representation of one-quarter? **(0.01)**
353. What is the radix point? **(The point separating the whole and fractional parts of a number)**
354. What is the fractional part of a binary number? **(The digits to the right of the radix point)**
355. What is the whole-number part of a binary number? **(The digits to the left of the radix point)**
356. What does the sign bit indicate when it is 0? **(Positive)**
357. What does the sign bit indicate when it is 1? **(Negative)**
358. What is the purpose of a program counter? **(To keep track of the instruction being executed)**
359. What is the purpose of a control unit? **(To control and coordinate CPU activities)**

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Compilation