

Most Repeated and Core Questions

1. **What is the Cyclic Redundancy Check (CRC) and how to compute it?** – Appeared **4 times** (e.g. Dec 2021 ¹, Jun 2022 ², Dec 2022 ³, Jun 2023 ⁴). *Core concept:* error-detection technique in data link layer.
2. **Explain multiplexing (e.g. synchronous TDM).** – Appeared **3 times** (e.g. Dec 2021 ⁵, Jun 2022 ⁶, Dec 2022 ⁷). *Core concept:* combining signals to share a medium.
3. **Questions on ARQ/flow control (stop-&-wait, sliding window, ALOHA)** – Appeared **3 times** (e.g. Dec 2021 ⁸, Dec 2022 ⁹, Jun 2023 ¹⁰). *Core concept:* error and congestion control in networks.
4. **Explain RSA key generation (public key cryptography).** – Appeared **2 times** (Dec 2021 ¹¹, Jun 2023 ¹²). *Core concept:* public-key cryptography and security.
5. **Why is PAM a prerequisite to PCM?** – Appeared **2 times** (Dec 2021 ¹³, Jun 2023 ¹⁴). *Core concept:* analog-to-digital conversion fundamentals.
6. **Differentiate congestion control and flow control.** – Appeared **2 times** (Dec 2021 ¹⁵, Dec 2022 ¹⁶). *Core concept:* reliable data transport mechanisms.
7. **Compare IPv4 header flags and fragmentation.** – Appeared **2 times** (Dec 2021 ¹⁷, Jun 2022 ¹⁸). *Core concept:* IP datagram structure and fragmentation.
8. **Contrast circuit switching vs. packet switching.** – Appeared **2 times** (Dec 2021 ¹⁹, Jun 2023 ²⁰). *Core concept:* fundamental switching paradigms.
9. **Explain IP addressing classes and representations.** – Appeared **2 times** (Dec 2021 ²¹, Jun 2023 ²²). *Core concept:* IP address structure and classification.

Note: Other core topics (even if asked less often) include OSI layers, LAN/MAN characteristics, wireless LANs, IEEE 802.11, spanning-tree/bridges, etc. These are important for understanding networking fundamentals.

Sources: Official IGNOU MCS-218 exam papers (Dec 2021, Jun 2022, Dec 2022, Jun 2023) ¹ ⁶ ⁸ ³ (illustrative examples of repeated questions).

¹ ⁵ ⁸ ¹¹ ¹³ ¹⁵ ¹⁷ ¹⁹ ²¹ [webservices.ignou.ac.in](https://webservices.ignou.ac.in/Pre-Question/Question%20Paper%20December%202021/SOCIS/MCA_NEW/MCS-218.pdf)
https://webservices.ignou.ac.in/Pre-Question/Question%20Paper%20December%202021/SOCIS/MCA_NEW/MCS-218.pdf

² ⁶ ¹⁸ [webservices.ignou.ac.in](https://webservices.ignou.ac.in/Pre-Question/Question%20Paper%20June%202022/SOCIS/MCA_NEW/MCS-218.pdf)
https://webservices.ignou.ac.in/Pre-Question/Question%20Paper%20June%202022/SOCIS/MCA_NEW/MCS-218.pdf

³ ⁷ ⁹ ¹⁶ [webservices.ignou.ac.in](https://webservices.ignou.ac.in/Pre-Question/Question%20Paper%20December%202022/SOCIS/MCA_NEW/MCS-218.pdf)
https://webservices.ignou.ac.in/Pre-Question/Question%20Paper%20December%202022/SOCIS/MCA_NEW/MCS-218.pdf

⁴ ¹⁰ ¹² ¹⁴ ²⁰ ²² [webservices.ignou.ac.in](https://webservices.ignou.ac.in/pre-question/Question%20Paper%20June%202023/SOCIS/MCA_NEW/MCS-218.pdf)
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