

**CS-450 DATA NETWORKS**  
**CHALLENGE EXAM**

**STUDY MATERIALS:**

Students deciding to take the challenge exam should use the current module for exam preparation. The text assigned for this course or another college level text will also be very helpful study materials.

**EXAM CONTENT:**

This exam is designed to test your knowledge and understanding of the concepts Outlined in the REGIS CS-450 DATA NETWORKS course module (2000).

The exam is a 100 point multiple choice exam based on 100 questions covered in the text assigned for this course. You will have 2½ hours to complete the exam, a passing score is 70%.

The exam will cover the following topics:

Networking models

- OSI reference model
- TCP/IP protocol suite
- SNA
- Layers and responsibilities
- Encapsulated/decapsulated headers and trailers

Internetworking hardware

- Modem/Codec
- Repeater/hub
- Bridge/switch
- Router

TCP/IP

- Applications
- Layers/responsibilities
- Addressing/subnets
- Routing algorithms
- IPv4 and IPv6
- ICMP

Data transmission

- Guided/unguided media
- Full-duplex/half-duplex/simplex
- Signaling/transmission impairments
- Synchronization
- Interface standards
- Connection-oriented/connectionless
- Circuit switching/packet switching
- Virtual circuits/datagrams
- Frequency division multiplexing
- Time division multiplexing
- Flow control
- Error detection/correction
- Spread spectrum

Network architectures

- Ethernet
- Token Ring
- TCP/IP
- X.25
- Frame relay
- ATM

Topologies

- Bus
- Ring
- Tree
- Star
- Star-ring

Network protocols

- HDLC
- SDLC
- LLC/MAC
- LAP-B
- LAP-D