WORKFORCE DEVELOPMENT AUTHORITY

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ADVANCED LEVEL NATIONAL EXAMINATIONS, 2016, TECHNICAL AND PROFESSIONAL STUDIES

EXAM TITLE: Networking

OPTION: Computer Electronics (CEL)

DURATION: 3hours

INSTRUCTIONS:

The paper is composed of **three (3) main Sections** as follows:

Section I: Seventeen (17) compulsory questions.   **55 marks**

Section II: Attempt **any three (3)** out of five questions.   **30 marks**

Section III: Attempt **any one (1)** out of three questions.   **15 marks**

Note:

Every candidate is required to carefully comply with the above instructions. Penalty measures will be applied on their strict consideration.

Section I. Seventeen (17) Compulsory questions   **55marks**

01. How many layers are there under TCP/IP? List them.   **2marks**

02. How does a network topology affect your decision in setting up a network?

3marks

03. Write short notes on the following terms:

   a. Backbone network

   b. Node

   c. Anonymous FTP

   d. Subnet mask

   e. Broadcast domain.   **10marks**

04. What is the maximum length allowed for a UTP cable?   **2marks**

05. Explain data encapsulation.   **3marks**

06. Write in full the following:

   a. VPN: c. RIP: e. ICMP:

   b. NAT: d. NIC: **5marks**

07. What is the job of the Network Layer under the OSI reference model? **3marks**

08. What are different ways of securing a computer network?   **3marks**

09. What are proxy servers and how do they protect computer networks? **3marks**

10. What is the difference between CSMA/CD and CSMA/CA?   **2marks**

11. You need to connect two computers for file sharing. Is it possible to do this without using a hub or router?   **2marks**

12. In a network that contains two servers and twenty workstations, where is the best place to install an Anti-virus program?   **2marks**

13. How can you identify the IP class of a given IP address?   **3marks**

14. Why do we use Subnet mask? What are its uses?   **3marks**

15. What is the difference between public and private IP?   **3marks**

16. One way of securing a network is through the use of passwords. What can be considered as good passwords?   **3marks**

17. Distinguish Bridge from Switch.   **3marks**

Section II. Choose and answer any three (3) questions. **30marks**

18. Define VLAN and list different types of VLAN. **10marks**

19. Describe the following Wired Networks Technologies: **10marks**

    A. Twisted pair. **(3marks)**

    B. Coaxial cable. **(3marks)**

    C. Optical fiber. **(4marks)**

20. A. What Media Access Methods. **2marks**

    B. Differentiate serial communication form parallel communication. **8marks**

21. Discuss Communication Modes. **10marks**

22. Specify different network devices that are used in the following network topology. **10marks**
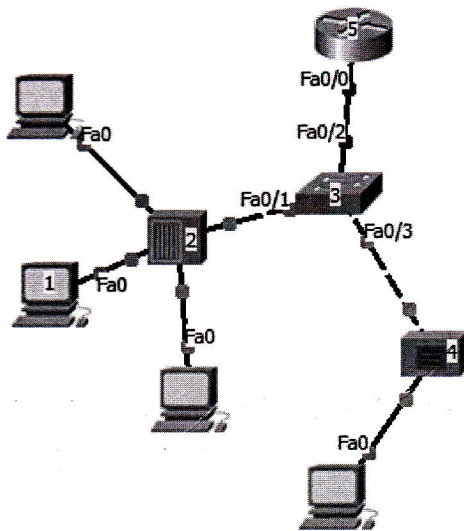
Section III. Choose and answer any one (1) question. **15marks**

23. A. What are the maximum hosts in a class A, B and C network?

    B. Discuss types of fiber optic cables.

24. A company would like to break its Class C network IP address 192.168.10.0/24 into 4 different subnets. Find ranges of IP addresses for each subnet and new mask.

25. Compare OSI model and TCP/IP model.