



ICM

MARCH 2017

NETWORKS

Instructions to candidates:

- a) Time allowed: Three hours (plus an extra ten minutes' reading time at the start – do not write anything during this time)
 - b) Answer any FIVE questions
 - c) All questions carry equal marks. Marks for each question are shown in []
 - d) Mark allocation should determine the length of your answer and the time you spend on it. Generally, one mark is awarded for each valid point
 - e) Ensure that you pay particular attention to words underlined, in CAPITALS or in **bold**. FEW OR NO MARKS will be awarded to any question where these are ignored
 - f) Read all sections of any question before attempting any part of it
 - g) No computer equipment, books or notes may be used in this examination
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1.
 - a) Explain how to obtain an email address. [4]
 - b) You have received a letter from an organisation requesting some information to be sent by email. Explain FULLY how to send the email to the organisation under the following conditions:
 - your computer has only just been switched on
 - you want a fairly quick response
 - the receiver is a large organisation that handles many emails every day [6]
 - c) The receiver will act on your message and distribute your details to the appropriate section and send you an acknowledgement. Explain how both of these actions are achieved. [6]
 - d) Identify FOUR possible actions the receiver can take with an email just read. [4]
 2. Write technical notes about FOUR of the following:
 - a) FTP and TCP
 - b) Javascript
 - c) Asynchronous and synchronous transmission
 - d) ISP
 - e) Cookies [5 each]
 3.
 - a) Explain how web pages can be created and put online. [6]
 - b) Identify the services that an ISP provides. [10]
 - c) Explain what is meant by **intranet** and discuss how it differs from other forms of networks. [4]
 4.
 - a) Distinguish between amplitude modulation and frequency modulation of data transmission, with references to the carrier wave. [5]
 - b)
 - i With particular reference to business situations, describe the advantages of network systems.
 - ii Identify disadvantages that the use of a network might impose. [10]
 - c) Explain how packet-switching works. [5]
 5.
 - a) Explain the purpose of a search engine and how to use one effectively. [8]
 - b) Describe the steps a site designer can take to increase the number of visitors to the site. [4]
 - c) Explain what a **URL** is. Give an explained example. [3]
 - d) Discuss ways of reducing/eliminating potential Internet security problems. [5]
 6. Relate this question to an email being sent to a far-off country.
 - a) Describe IN DETAIL the process of sending an email to the correspondent. [6]
 - b) Explain the route of the email once the user presses SEND. [5]
 - c) Describe the type of information that may be sent via email and how this is achieved. [5]
 - d) Explain how to send an email to many people in one step. [2]
 - e) Explain how to send an email to many people without showing their addresses to each person. [2]

continued overleaf

7. a) Distinguish between domain name and IP address. [4]
b) i Explain what a **cookie** is and how it achieves its intended purpose.
ii Cookies can have adverse effects for computer users. Explain what these are. [8]
c) Outline the range of features open to a student using the Internet. [8]
8. Study the following:
A < head >
B < title > XAB Home page < / title >
C < / head>
D < body background = "images / xyx . jpg" >
E < img src = "pqr.gif" Width = 100 height = 60 align right >
F < / body >
a) The above is a sample of language code.
i Name the code. [5]
ii Explain how this code differs from coding in many other programming languages. [5]
b) Taking EACH of the lines A to F in turn, explain what the code achieves. [10]
c) Explain what is meant by a **tag** in relation to the above. Define TWO tags from the above and give TWO other examples **not** used in this code. [5]