

Cambridge
International
AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level

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INFORMATION TECHNOLOGY

9626/32

Paper 3 Advanced Theory

February/March 2018

1 hour 45 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces at the top of this page.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **all** the questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

Any businesses described in this paper are entirely fictitious.

This document consists of **18** printed pages and **2** blank pages.

- 1 A website designer can use bitmap or vector images in web pages.

Explain the characteristics of bitmap images that make them suitable for use on web pages that advertise items for sale.

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..... [4]

2 Analyse the impact of network bandwidth on video-conferencing.

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[8]

- 3 Fig. 1 shows a diagram of interconnected computer networks that use internet protocol (IP) to communicate. A file is being sent as six data packets from network A to network H. Nodes B to G are routers used to connect the networks.

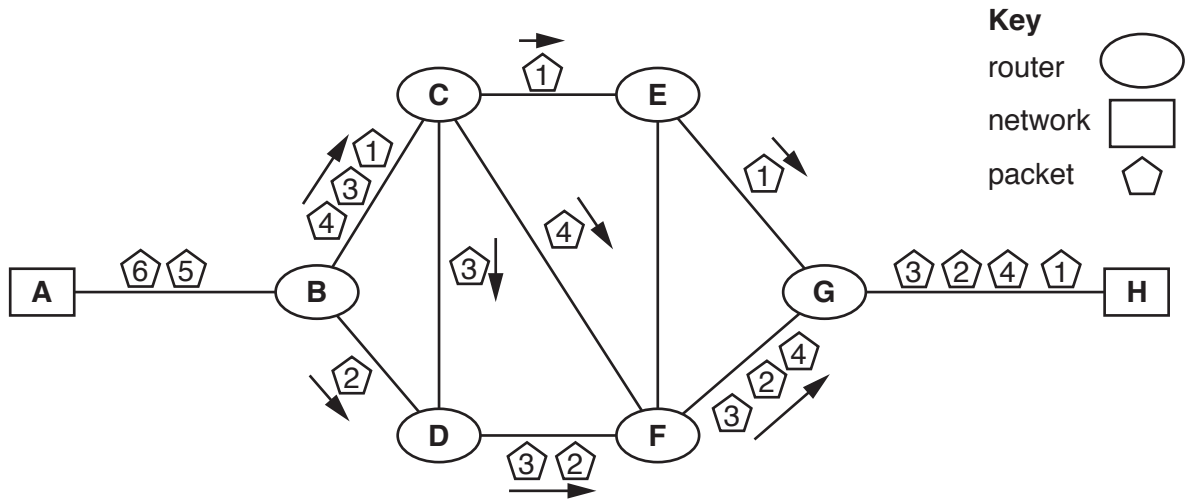


Fig. 1

- (a) Explain why the packets arriving at network H are in a different order from when they were sent by network A.

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- 4 A building project has a number of activities, F, G, H, I, J and K, that need to be carried out between the stages A, B, C, D and E. Fig. 2 shows a Project Evaluation and Review Technique (PERT) chart for the building project.

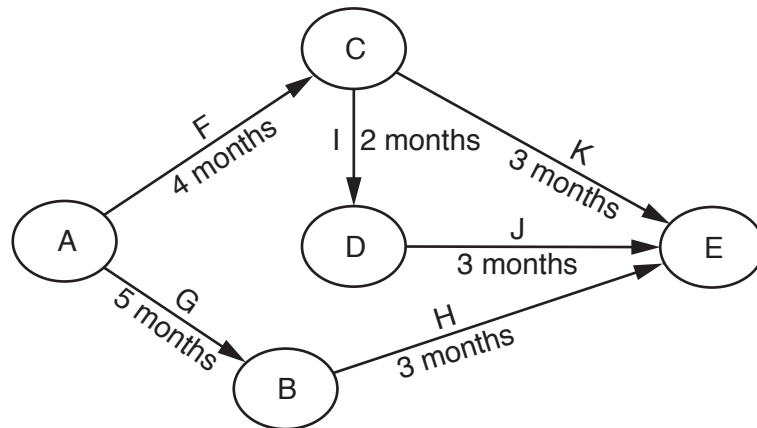


Fig. 2

- (a) The building project has a series of milestones to help the managers monitor the progress of the project.

Identify the first two milestones in this project.

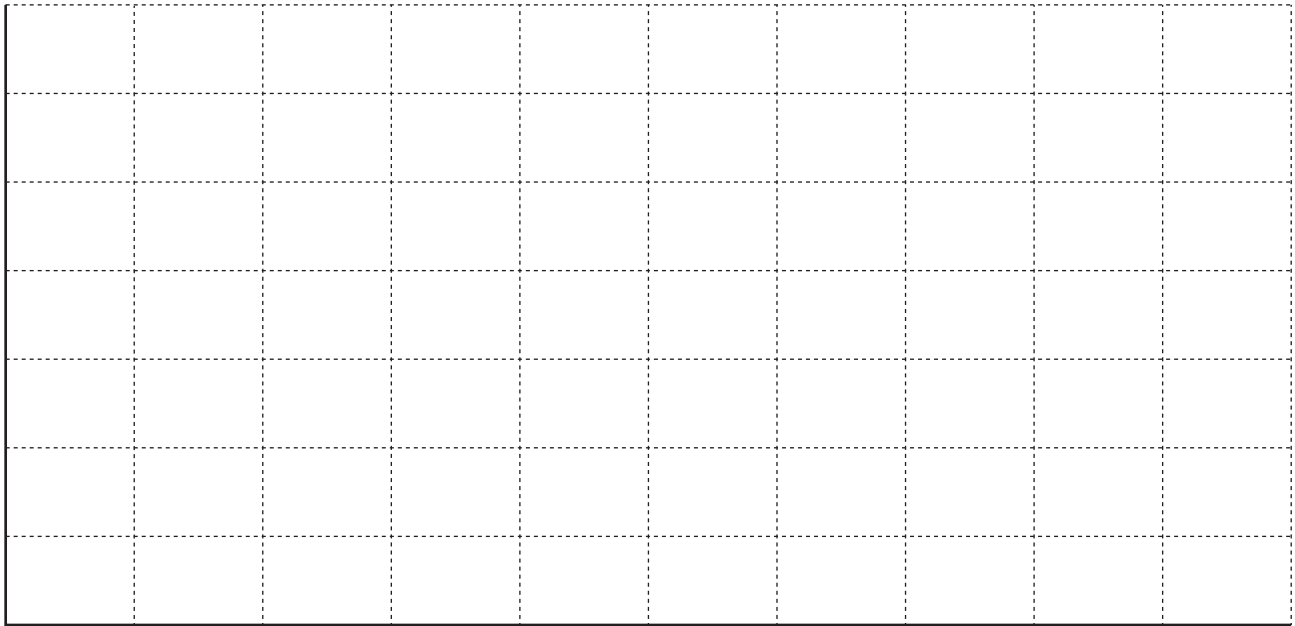
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- (b) Describe the critical path through this project.

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To create the PERT chart, managers first produced a Gantt chart.

- (c) On the grid below, draw and label the Gantt chart from which the PERT chart in Fig. 2 would have been derived.



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- 5 A global company has many managers in cities around the world. A mail merge document is being created to invite each manager to a training event.

The section of the data source file storing the managers' details for the mail merge is:

Invite?	Title	First Name	Family Name	Address1	Address2	City	Country	Postcode
Yes	Mr	Harold	Johnson	The Beeches	12a Bury St	Manchester	UK	M3 4EN
Yes	Mr	Ahmed	Molokya	El Gezira St	Dokki	Cairo	Egypt	12311
Yes	Ms	Rowena	Cobb	PO Box 27	Sunshine Drive	Auckland	New Zealand	1010
Yes	Mr	Vihann	Sardana	1257	SM Mandir	Mumbai	India	400083
No	Mr	Sam	Wick	4 The Avenue	Attwood	Hume	Australia	3000
Yes	Mrs	Rethebile	Pillay	127	Farnworth	Cape Town	South Africa	7760
Yes	Miss	Charlene	Foster	15 Stirling Highway	Melbourne Terrace	Melbourne	Australia	3205
No	Mr	Daniel	Cross	64 Cherry Rd	Hinton	Cambridge	UK	CB1 4EF

Managers in the UK and Egypt will be invited to the event in London while all others will be invited to the event in Hong Kong. Managers who are not being invited are marked as 'No' in the source file.

A first draft of the mail merge template for the letter is shown here:

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<<Title>> <<Family Name>>
<<Address1>>
<<Address2>>
<<City>>
<<Country>>
<<Postcode>>

Dear <<Title>> <<Family Name>>

The company is holding a training event for you on 1 July 2019 in <<City>> and you
are invited to attend.

All expenses for travel from your home city of <<City>> and accommodation at the
meeting will be paid by the company.

Yours sincerely

Managing Director

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8 Describe the advantages of evolutionary prototyping compared to throw-away prototyping.

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9 There are a number of different types of protocols.

(a) PPP is a network protocol.

Describe what is meant by PPP.

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11 Analyse the impact of the introduction of high definition television systems.

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