

ADVANCED LEVEL MOCK EXAMINATION 2010

COMPUTER APPLICATIONS AS-LEVEL
PAPER 1

Marking Scheme

1 [4 marks]

- a) 255.0.0.0 (1)
- b) Incoming: 61.204.2.5 (1)
Outgoing: 61.204.2.1 (1)
- c) the configuration between the mail servers and the web server is set on the server side. Users only need to specify the URL/IP address of the web server so that the mail can be downloaded via HTTP. (1)

2 [6 marks]

- a) (i) Data and trailer (1)
(ii) (source and destination) address / checksum / packet size etc (1+1)
(iii) avoid a particular party monopolizing the network. / If a packet is lost, only the lost packet is resent, which reduces the cost of data loss. (1)
- b)
- (i) Hub (1)
(ii) Amplifies the received signal. (1)

3 [6 marks]

a) For Doctor and Patient:

Correct entities (doctor and Patient) and attributes (1)

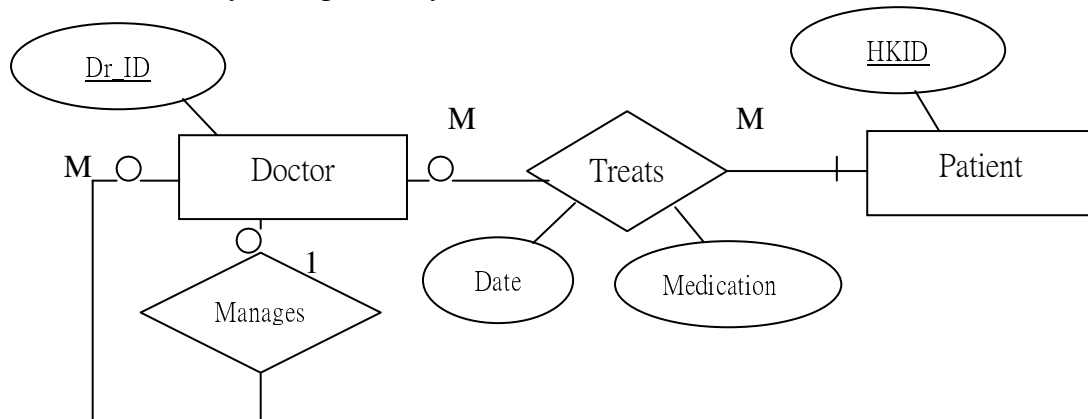
Correct relationship (Treat) and attribute (Date+ Medication) (1)

Correct cardinality and optionality (1)

For the management section:

Correct relationship (Manager) (1)

Correct cardinality and optionality (1)



b) Conceptual (Logical) Level (1)

4 [8 marks]

- a) Decrease font size/decrease margin. (1 for both)
- b) Spell check / grammar check (1 for both)
- c) Enable the tracking function (1)
- d) In D1, write the following function : =IF(C4="M","Mr ","Mrs"). Drag the function to the last cell in column C. Name the column with “Mr/Mrs” (1)
Use “mail merge” with “Last name” and “Mr/Mrs” as fields, then produce a merged document. (1)
- e) Database/ word document (1)
- f) She has used linked OLE but forgot to copy the pictures to the new computer (1)
The pictures are in the new computer, but located in the wrong path (1)

5 [5 marks]

- a) Yes, as such combination can uniquely identify the record (1)
- b) Student_ID/ School_Code+Class+Class_No (1)
- c) Cannot tell because we do not know whether data are within the domain of attribute or not from the schema (1)
- d) Yes if student_ID (or School_Code+Class+Class_No) is used as the primary key.
OR
No because we cannot tell whether primary keys have null value (1)
- e) Yes, since only one attribute is used as the primary key, no partial dependencies can occur. (1)

6 [5 marks]

a) (i) Trojan horse/Spyware/malware (1)

(ii) Do not use the services through public computers. (1)

Use computer with firewall installed.

Do not execute unknown programs.

(iii) SSL is used for data encryption. (1)

b) Encrypt the mail with Ms Chan's private key and Mr. Wong's public key. (1)

c) Yes, as the article is copyright protected. (1) OR

No, if she gets permission from the author of the article. (1)

7 [6 marks]

- a) Such action is impossible as cache bundles with the CPU and cannot be upgraded separately(1)
- b) No, X communicates with Y using (TCP/IP) protocol which is independent of the OS version. (1)
- c) (i) It is impossible as USB thumb drive is a secondary storage which is not related to main memory. (1)

OR

It is possible as some USB thumb drives provide “ready boost” function, given that the OS supports such function. (1)

(ii) Close some unnecessary applications / increase the size of virtual memory (1+1)

- d) SSD harddisk does not have any rotating components. (1)

8 [20 Marks]

a)

(i) Advantage: Can directly read the current class and class number from the student number (1)

Disadvantage: Student number keeps changing every year. (1)

(ii) Ans: =IF(ISNA(MODE(C4:C13)), "No", "Yes") OR

=IF(ISERROR(MODE(C4:C15)), "No", "Yes") OR

=IF(ISNUMBER(MODE(C4:C15)), "Yes", "No") (2)

(iii) =IF(LEFT(C2,4)="0412", "Y", "N") (1+1)

b)

(i) Ans: If one of the cells has non-numeric items (e.g. "ABS"), error message will be prompted in Method one. (1)

If the number of quizzes increases, a number of amendment has to be made in method one. (1)

c) =LARGE(F2:I2, 1)+LARGE(F2:I2,2)+LARGE(F2:I2,3) (2)

d) =IF(OR(AND((I2>H2), (H2>G2)), AND((H2>G2), (G2>F2))), "Y", " ") (1+1)

e)

(i) =VLOOKUP(C2,SheetA!\$D\$2:\$K\$11, 7, FALSE) (2)

(ii) =COUNTIF(D2:D7, ">"&AVERAGE(D2:D7)) (2)

(iii) Select A1 to D7, apply "Filter" (1)

Choose to view 4A and 4B only in the filter (1)

f)

(i) By changing the mark of an individual, the result of whether a student obtains an award can be changed. (1)

(ii) The result can be updated immediately. (1)

9 [20 Marks]

a) ALTER TABLE STUDENT ADD CNUM NUMRERIC(2,0) (2)

← ① →

b)

SELECT EVENT, COUNT(*) FROM STUDENT AS S, PARTICIPATION AS P
WHERE S.SID=P.PID AND S.SEX="M" GROUP BY EVENT (3)

← ① → ← ① →

c)

SELECT S.NAME, P.EVENT FROM STUDENT AS S, PARTICIPATION AS P
WHERE S.SID=P.SID AND S.CLASS="3A" ORDER BY NAME (3)

← ① → ← ① →

d)

SELECT CLASS, NAME FROM STUDENT WHERE
SID NOT IN (SELECT SID FROM PARTICIPATION) AND CLASS LIKE "1_"

← ① → ← ① →

(3)

e)

SELECT DISTINCT S.CLASS, S.NAME FROM STUDENT AS S,
PARTICIPATION AS P1, PARTICIPATION P2 WHERE S.SID=P1.SID AND
S.SID=P2.SID AND

← ① →

P1.EVENT<> P2.EVENT (3)

← ① →

f)

SELECT HOUSE, NAME FROM STUDENT WHERE
SID IN (SELECT SID FROM PARTICIPATION) AND

← ① →

SID NOT IN (SELECT SID FROM PARTICIPATION WHERE EVENT= "Shot
put")

← ① →(3)

g) DML deals with data query and update, while DDL deals with defining schema. (1)

h) Data dictionary/Transaction management /Security/ DB Backup and recovery (any two 1+1)

10 [20 Marks]

- a)
 - (i) 24 port switch. Not enough ports for 12 port switches (1)
 - (ii) Connect the AP to the floor switch on the 1/F / Connect the AP to the core switch directly. (1)
 - (iii) WEP, WAP (1+1)
 - (iv) (Cascade the two 12 port switch, then connect one of them to the core switch) (1+1)

- b)
 - (i) Centralized management / The temperature of the server room is low all the time to avoid servers from being overheated. (1)
 - (ii) Closer to workstations in the media center (1)
 - (iii) Videos can be viewed before complete download, reducing the waiting time of users. (1)
 - (iv) Broadcast to other subnets can be blocked. (1)
 - (v) Create a VLAN (Virtual LAN) using the switch (1)

- c)
 - (i) Recover the files from the full backup on Saturday. (1)
Recover the files from the incremental backup from Monday to Wednesday (1)
 - (ii) Using RAID (1)

- d)
 - (i) (1+1)

| | |
|------------------------|---|
| IP address | (any IP address between 172.19.0.1 to 172.19.255.254) |
| Default gateway | 172.19.2.15 |

- (ii) The workstation can still connect to the network using a valid IP address until the lease expires. (1)

- e) Locate the path of the shared folder (1)
- Create user account (and password) (1)
- Setup user permission (1)