

NET311 – Homework 2

1. Mention two salient points about each of the following standards of network management:

- OSI/CMIP
- SNMP/Internet
- TMN
- IEEE

أذكر نقطتين بارزتين عن كل مما يلي من معايير في إدارة الشبكات

2. Consider a network of multivendor network components.

لديك شبكة بها مكونات من بائعين متعددين.

- Hubs are made by Cabletron and are managed by Cabletron NMS.
- Routers are made by Cisco and are managed by CiscoWorks NMS.
- The entire network is managed by general-purpose NMS such as HP Openview NNM.

- ال hubs مصنوعة من شركة Cabletron ومدارة بنظام Cabletron NMS
- ال routers مصنوعة من شركة Cisco ومدارة بنظام CiscoWorks NMS.
- الشبكة كلها مدارة بنظام NMS عام مثل HP Openview NNM.

Draw a three-tier management network according to the above description. See Figure 3.4 in the textbook.

ارسم شبكة إدارة ذات ثلاثة مستويات حسب الوصف السابق. راجع شكل 3.4 في الكتاب.

3. Write an ASN. 1 module that specifies DaysOfWeek as SEQUENCE type with each day of the week (day1, day2, ...) as the type VisibleString. Write the ASN. 1 description:

- for the structure (Type definition)
- for the value (Value assignments, using values of Sunday, Monday, ..., Saturday)

4. Given the definition

```
class ::= SET {  
  name      VisibleString,  
  size      INTEGER,  
  graduate   BOOLEAN  
}
```

Which of the following set of values is (are) compatible with the above ASN. 1 record structure? You can select more than one.

- "CS4803B," FALSE, 28
- CS8113B, TRUE, 28
- "CS4803B," 28, TRUE
- CS4803B, 28, TRUE

5. Answer the previous problem if you have SEQUENCE instead of SET.

6. You have the following ASN.1 module definition:

```
Student ::= SEQUENCE {
  name      UTF8String,
  id        INTEGER,
  birthDate  Date
}
```

```
Date ::= SEQUENCE {
  day        INTEGER,
  month      INTEGER,
  year       INTEGER
}
```

Encode the following record using BER rules. Note that numbers are always encoded in hexadecimal.

{ "Ahmed", 465987123, {2, 10, 1985}}

You can use the following information:

Type Codes

Type	Hex Code
INTEGER	02
UTF8String	0C
SEQUENCE	30

Letter Codes

Letter	Hex Code	Letter	Hex Code	Letter	Hex Code	Letter	Hex Code
A	41	N	4E	a	61	n	6E
B	42	O	4F	b	62	o	6F
C	43	P	50	c	63	p	70
D	44	Q	51	d	64	q	71
E	45	R	52	e	65	r	72
F	46	S	53	f	66	s	73
G	47	T	54	g	67	t	74
H	48	U	55	h	68	u	75
I	49	V	56	i	69	v	76
J	4A	W	57	j	6A	w	77
K	4B	X	58	k	6B	x	78
L	4C	Y	59	l	6C	y	79
M	4D	Z	5A	m	6D	z	7A