



الفرصة الرابعة 2019

Faculty of Electronic Engineering  
Electronic and Communication  
Department  
Forth Year  
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Question 1 (10-12)

a. In your answer sheet, only put the missing word/s

- 1- PSTN stands for: .....
- ISDN stands for: .....
- PSPDN stands for: .....
- 2- Investments in communication equipments in the network is so .....
- 3- The extent to which the network to meet the user's requirements is of .....
- 4- The capacity of the networks depends on the number of .....
- 5- Every subscriber connection to the system must be .....
- 6- The system must be will dimensioned in such a way as to be .....
- 7- The system should be able to cater for .....
- 8- The levels in the hierarchy can be linked to form the coherent world .....
- 9- The micro financial plan deal with the problems of getting the best for .....
- 10-In developing networks the selection of the correct plant ..... is important
- 11-The growth of the telecommunication network is governed by the .....
- 12-Forecasting of subscriber density growth is an essential step in .....
- 13-The total traffic is more responsive to the business activity and .....
- 14-If the annual growth is a constant percentage, the number of user increase .....
- 15-The Gompertz model caters for .....
- 16-Tandem exchange is used to route transit calls between .....
- 17-Store and forward switching method is another name of .....
- 18-.....is only one of a number of possible network protocol introduced problems
- 19-The object of a numbering plan is to allocate a .....to each subscriber
- 20-The numbering plan must consider the division of the country into areas for .....

b. In your answer sheet only put true or false

- 1- The international network consists of trunk exchanges
- 2- Fundamental plan involves only financial plan
- 3- Optimum network is the one designed for efficient performance only

- 4- Usually sparsely populated area contains few, small exchanges
- 5- In Densely populated areas, the subscribers have short lines
- 6- The typical provision period of sites is a bout 20-40 years
- 7- The typical provision period of numbering scheme is a bout 30 years
- 8- The typical provision period of cable duct is 20 years
- 9- The technical plans set the technical standards and detailed technical guidelines
- 10-The linear model is reasonable for a small number of years
- 11-Tandem exchange is an important economic expedient for a telephone company
- 12-A direct trunk circuit is used when there are a traffic over than 20 Erlang for busy hour
- 13-Circuit switching is a fully transparent switching technique
- 14-Delay is constant in packet switching techniques
- 15-Message switching allows interactive session between end users
- 16-Packet switching is inefficient than circuit switching
- 17-In packet switching a large storage capacity must be available at each node
- 18-Transmitting very short message as a unit is harmful in several ways
- 19-Packet switching allows simultaneous use of communication circuits
- 20-The in-band signaling is more better than the out-band signaling
- 21-One of the circuits switching advantages is that the delay is constant and prior to data transfer
- 22-In virtual circuit the channel is reserved between two users only
- 23-Circuit switching has a lower delay for small message size
- 24-Supervisory signals provide information about the state of the call

### Question 2 (6-6)

- a- The number of subscriber lines put in services in certain exchange area during the interval 1992-1997 was registered in the following table:

year	1992	1993	1994	1995	1996	1997
Number of lines	105	110	112	115	117	120

- Calculate the expected number of lines required to be connected at year 2018
- b- A message of 6000 byte is transferred through a network with 3 nodes between the sources and destination. The data rate on all links is 96 kbs, with packet size 250 bits and 50 bits as a header. The setup time is 0.2

