FACULTY/COLLEGE	College of Business and Economics
SCHOOL	School of Consumer Intelligence and Information Systems
DEPARTMENT	Applied Information Systems
CAMPUS(ES)	APB
MODULE NAME	Communications Networks 2B
MODULE CODE	CMN02B1
SEMESTER	Second
ASSESSMENT OPPORTUNITY, MONTH AND YEAR	Final Summative Assessment Opportunity November 2019

ASSESSMENT DATE	21 November 2019	SESSION	12:30 – 15:30
ASSESSOR(S)	Dr Barnabas Gatsheni		
MODERATOR(S)	Mr. Tino Museba		
DURATION	3 hours (180 min)	TOTAL MARKS	100

NUMBER OF PAGES OF QUESTION PAPER (Including cover page)	4 PAGES

INFORMATION/INSTRUCTIONS:
_____
- This is a closed-book assessment.
- There are 4 questions. **Answer All questions**
- Read the questions carefully and answer only what is required.
- Number your answers clearly and correctly as per the question paper.
- Write neatly and legibly on both sides of the paper in the answer book, starting on the first page.
_____

_____

QUESTION 1 **[25 MARKS]**

1.1   Define jitter?   (3)

1.2   Suggest possible solutions for MTU mismatch   (4)

1.3   Name 3 data flow characteristics and then describe any 2 of these data flow characteristics and where possible include examples   (6)

1.4   Describe with the help of a diagram the Priority queuing (PQ).   (6)

1.5   Compare packet filter firewall with admission control at routers covered in Quality of Service (QoS).   (6)

QUESTION 2 **[25 MARKS]**

2.1 Discuss the link state database (LSDB). In your discussion bring in the issues of flooding and the link state packet (LSP).   (6)

2.2 A packet has arrived with an M bit value of 1. Is this the first fragment, the last fragment, or a middle fragment? Is the packet was fragmented? Please explain how you arrived at your answer.   (6)

2.3 Describe with the help of a diagram the leaky bucket technique and then state one of   its weaknesses.   (7)

2.4   Describe token passing controlled access method.   (6)

QUESTION 3 **[25 MARKS]**

3.1   In multiple access protocols, compare any two of the three persistence methods. The narrative (words) accompanied by diagrams will attract more marks.   (7)

_____

3.2   Figure 1 shows the RSVP process. Please describe RSVP as shown in Figure 1. Make sure you fully explain the terms shown in Figure 1 as well. (7)
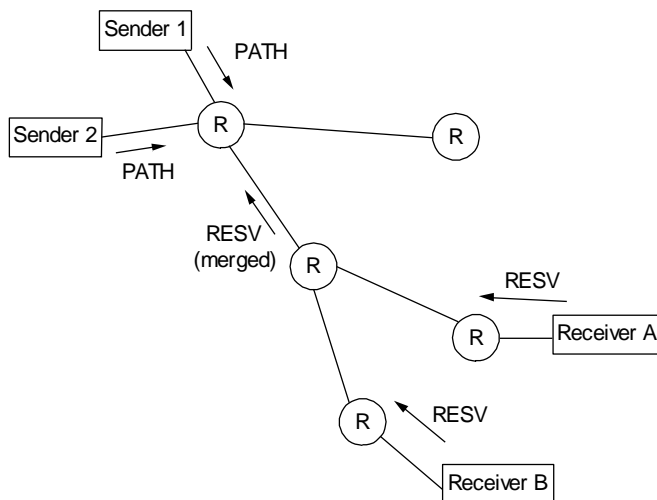

Figure 1: shows the RSVP process

3.3   Router decision is based on current availability of resource. Please name 4 of these resources and then explain the activities of the router with respect to admission control.   (6)

3.4 Describe with the help of a diagram, link state routing.   (5)

QUESTION 4   [25 MARKS]

4.1   In banyan switch shown in Figure 1, a packet has arrived at Input port 2 and must go to output port 6. Use your pen trace the path from Input port 2 to output port 6 and also explain in words how you arrived at that answer.   (7)
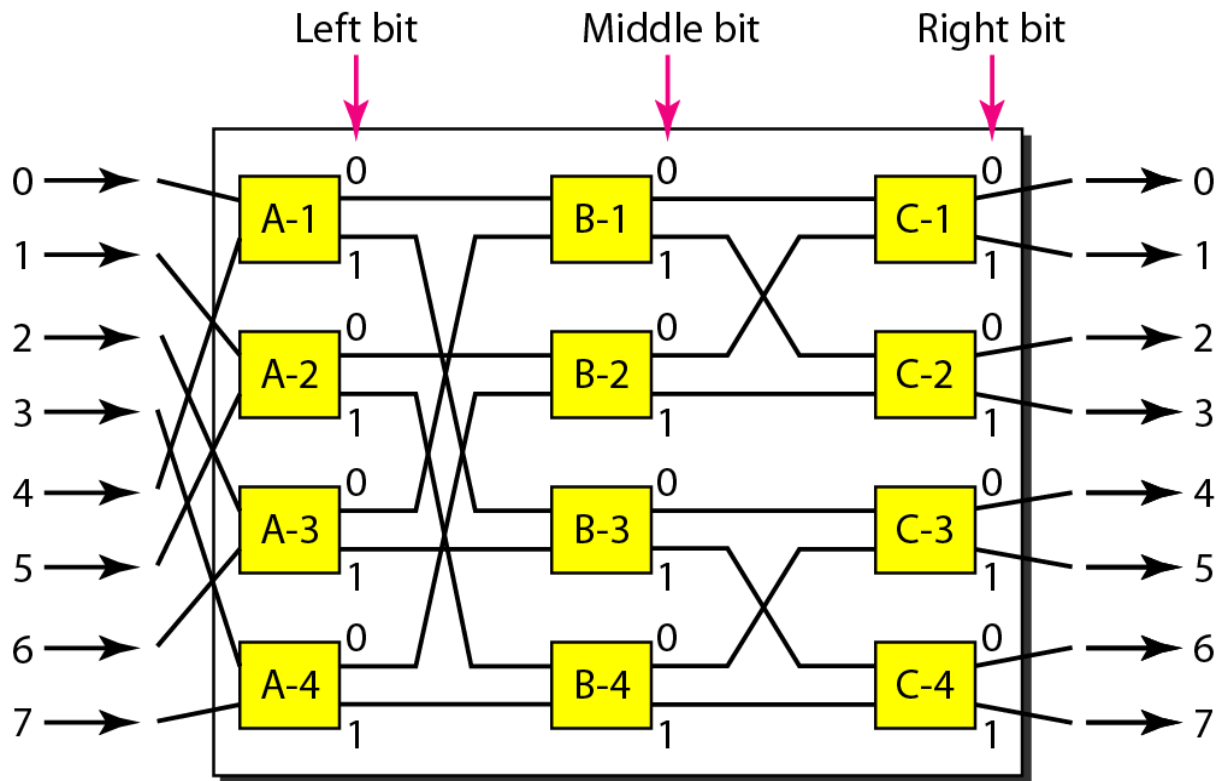
Figure 1: Shows a Banyan Switch

4.2   In CSMA/CD, explain the terms of collision detection and jam sequence.   (4)

4.3   Describe Frequency-division multiple access (FDMA)   (6)

4.4   Please state 4 resources that are managed in a network.   (4)

4.5   What do you understand by the term filtering in Communication networks? (4)