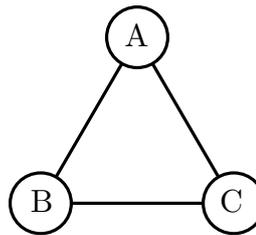## 1999 Paper 8 Question 3

Digital Communication II

Compare the Integrated Services (IntServ) and Differential Services (DiffServ) Internet communication architectures with respect to

(*a*) state within the network

(*b*) the kinds of guarantees that can be made

(*c*) mechanisms which routers must provide [10 marks]

It is required to provision a network to meet service level agreements (SLAs) which specify traffic requirements. A *single-ended* SLA is one in which the sources but not the destinations of traffic stream requirements are specified, while a *double-ended* SLA specifies both sources and destinations. What are the implications of single-ended and double-ended SLAs on provisioning and the nature of the guarantees that can be made? Use the following as an example.

Case 1: Single-ended SLA

Source	Required rate
A	2
B	3
C	4

Case 2: Double-ended SLA

Source	Destination	Required rate
A	B	1
A	C	1
B	A	2
B	C	1
C	A	2
C	B	2

[10 marks]