1.   **Goal plc**

Goal plc is a South American football club. Although the players are highly motivated and united as a team, they have won very few games. Loyal supporters and shareholders are worried about relegation to a lower league and a significant fall in revenue and potential cash flow problems as a result. The management team is considering three possible options to improve the team's performance and attract more spectators.

The expected returns from each option depend on the prevailing economic conditions. These economic conditions and the probability of each occurring are shown in the table below.

	Expected return ($)		
	Improved	Unchanged	Worsened
	20%	50%	30%
Option 1. Buy new players from top European teams Cost $2 m	5 m	4 m	1 m
Option 2. Build a new modern stadium on a nearby underdeveloped site Cost $3 m	6 m	5 m	(–1 m)
Option 3. Renovate the stadium and the training facilities Cost $1 m	3 m	2 m	1 m

Option 1 will improve team performance, attract more supporters and increase revenue. However, with the introduction of new players there are concerns about possible clashes of culture and the effect on the motivation of existing players. **Option 2** will take four years to complete. Local politicians, supporters and players favour this option. Tax concessions and grants have been offered for the redevelopment. However, a pressure group opposes the redevelopment because of increased traffic congestion. The financial director and the shareholders, concerned about the current lack of funds, prefer **Option 3**, which will take one year to complete.

(a)   Construct a fully labelled decision tree. *(Show all your working)*   *[6 marks]*

(b)   Explain **one** advantage and **one** disadvantage for *Goal plc* of using
       decision trees.   *[4 marks]*

(c)   Evaluate the **three** options and recommend to the management of *Goal plc* the
       option that they should choose.   *[10 marks]*