



Pearson
Edexcel

Mark Scheme (Results)

October 2020

Pearson Edexcel International Advanced
Subsidiary In
Information Technology (WIT4/01)
Unit 4

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

October 2020

Publications Code WIT14_01_2010_MS

All the material in this publication is copyright

© Pearson Education Ltd 2020

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted. Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response

Note to examiners

Where example screenshots are included, these are indicative content only and not a definitive answer. Students should receive credit based on the marking instructions in the answer column.

Question number	Answer	Additional Guidance	Mark	
1(a)i	Presence check for Name			
	A1	Any suitable presence check Required set to yes OR validation rule of 'Is Not Null'	1	
	A2	Suitable error message eg 'You must input the trainer name''	Must also have suitable validation rule to achieve this mark	1
	Total		2	
1(a)ii	List check for DaysAvailablePerWeek			
	A3	List box or combo box applied to DaysAvailablePerWeek field	1	
	A4	Correct range 1;2;3;4	1	
	Total		2	

Question number	Answer	Additional Guidance	Mark
1(b)	Trainer data entry form		
	B1	Data entry form displayed is empty	1
	B2	All fields trainer table included in form	1
	B3	TrainerID is disabled	1
	B4	TrainerID (design view) Any formula/method that is correct such as: =Max(TrainerID)+1 OR = DMax("TrainerID", "tblTrainer")+1 OR sorted into descending order then TrainerID+1 OR TrainerID (form view) Screenprint clearly showing TrainerID as (New) OR Screenprint of table showing TrainerID as autonumber	1
	B5	One from: <ul style="list-style-type: none"> Form labels are appropriate (not database field names) Form has meaningful title Entry boxes on form are resized appropriately to reflect the data they will be used to enter And one from: <ul style="list-style-type: none"> Instructions on how to use Asterisks 	1
	B6	Button present and suitably labelled e.g. Save / or suitable icon	1
	B7	Suitable message displayed asking if data is to be saved	1
	B8	Save would be attempted only if user selects Yes	1
	B9	Record would save in correct table	1
		Total	9

Question number	Answer	Additional Guidance	Mark
1(c)	<p>Indicative content</p> <p><i>Analysis</i></p> <p>send emails to a trainer's primary email address and include their first name in the email</p> <ul style="list-style-type: none"> • Can tell some of the email addresses that are primary as uses the word primay • For some it is impossible to tell so would not know which email address to use • Arden Lentsch does not have an email address so would be impossible to send an email to this trainer • Some of the email address are not valid e.g. Daveta Andren and Frederik Crowter • One of the trainers does not have a first name so it would be impossible to include that in the email • The names are not always in the first name followed by surname format eg Frederik Crowter • It would be very hard to try and extract only primary email address as there would have to be a search to find the word primary but it has been inconsistently used e.g. Cherey Aysik has '-primary' after the email adress whereas Smith has 'primary -' before the email address. • Would be hard to extract first names as would have to separate the names using the space and then could not be sure it was the first name that was extracted • The emails sent may not look professional as the names do not always begin with capital letters • The name is not atomic i.e it is made up of two parts, first name and surname • There is a one to many relationship between a trainer and their email(s) i.e. a trainer may have more than one email address <p>telephone a trainer as and when required</p> <ul style="list-style-type: none"> • One instructor does not have a telephone number so it would be impossible to telephone them • Not all of the telephone numbers use a valid format so it would also be impossible to telephone them e.g. Lon Farmery has ' at the beginning and end of the telephone number, Smith includes 'a' and has too many numbers <p><i>Recommendations</i></p>		9

	<p>Name</p> <ul style="list-style-type: none"> • should be split into two distinct fields, Firstname and Surname • should include a presence check on both fields to ensure both are present • should include a format check to make sure the first letter of each is uppercase <p>Email</p> <ul style="list-style-type: none"> • Should be removed from the table and a new table created e.g. tblEmail • New table should include TrainerID as a foreign key to maintain the link with the trainer. This would allow a trainer to have many email addresses • New table should include a field to signify which of the email addresses is the primary one (if more than one) • Should have a format check to make sure email uses valid format • Would need validation to ensure at least one email address is present per trainer e.g. validation on the form <p>Telephone</p> <ul style="list-style-type: none"> • Should include a length check of 11 • Should include a format check to ensure only digits are allowed • Should include a presence check to ensure a telephone number is present 		
--	---	--	--

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • Analysis is flawed or superficial, containing simple statements that show limited understanding of the subject matter. • Solution may contain some aspects that are appropriate but is generally ineffective.
Level 2	4-6	<ul style="list-style-type: none"> • Analysis is sound, containing minor inaccuracies or omissions, showing some understanding of the given issue. • Solution is workable but may have minor issues.
Level 3	7-9	<ul style="list-style-type: none"> • Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. • Solution is appropriate and workable.
Total for question		9

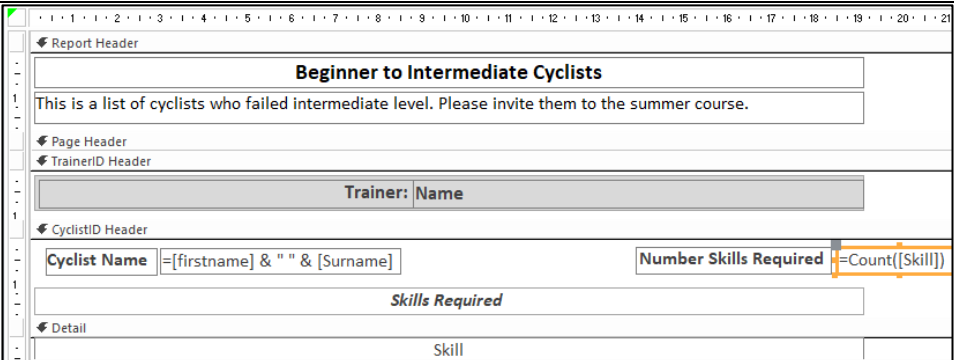
Question number	Answer	Additional Guidance	Mark
-----------------	--------	---------------------	------

1(d)		Table Structure	
D1	Use of appropriate field names and naming conventions		1
D2	Cyclist table is present		1
D3	Skill table is present		1
D4	Skills Achieved table is present		1
D5	1:M relationship between Trainer and Cyclist		1
D6	1:M relationship between Cyclist and Skills Achieved		1
D7	1:M relationship between Skill and Skills Achieved		1
D8	Appropriate primary key used for Cyclist table		1
D9	Appropriate primary key used for Skill table		1
D10	Composite key used for Skills Achieved		1
D11	Yes/No is used for SkillAchieved		1
Total			11

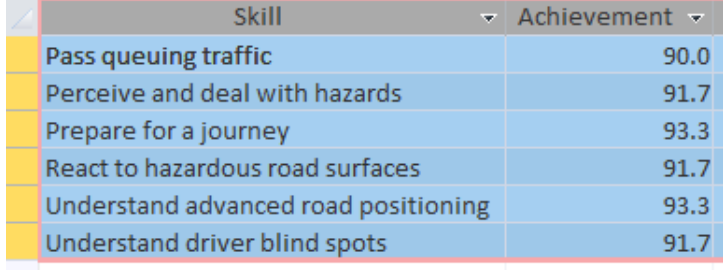
Question number	Answer	Additional Guidance	Mark
1(e)	Import		
	E1	Skill table – 19 records	1
	E2	Cyclist table – 60 records	1
	E3	Skills Achieved table – 1140 records	1
Total			3
Total for question 1			36

Question number	Answer	Additional Guidance	Mark
2(a)	Trainer and achievement query		
A1	Only these fields included in query Surname Firstname TrainerID (or equivalent) LevelAchieved		1
A2	Parameter with suitable input message used to find trainer		1
A3	“Advanced” used for criteria for LevelAchieved		1
A4	TrainerID and LevelAchieved will not be shown in results		1
A5	<p>Correct cyclist names shown</p>	Do not penalise if name appears more than once	1
A6	Correct cyclist names appear only once		1
		Total	6

Question number	Answer	Additional Guidance	Mark																																																					
2(b)(i)	Beginner to intermediate trainer and cyclist query																																																							
	<table border="1"> <tr> <td>Field:</td> <td>CyclistID</td> <td>FirstName</td> <td>Surname</td> <td>LevelAchieved</td> <td>SkillAchieved?</td> </tr> <tr> <td>Table:</td> <td>tblCyclist</td> <td>tblCyclist</td> <td>tblCyclist</td> <td>tblCyclist</td> <td>tblSkillsAchieved</td> </tr> <tr> <td>Sort:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Show:</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Criteria:</td> <td></td> <td></td> <td></td> <td>"beginner"</td> <td>No</td> </tr> <tr> <td>or:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="1"> <tr> <td>SkillID</td> <td>Skill</td> <td>TrainerID</td> <td>Name</td> </tr> <tr> <td>tblSkillsAchieved</td> <td>tblSkill</td> <td>tblTrainer</td> <td>tblTrainer</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td colspan="4">Between 6 And 13</td> </tr> </table>			Field:	CyclistID	FirstName	Surname	LevelAchieved	SkillAchieved?	Table:	tblCyclist	tblCyclist	tblCyclist	tblCyclist	tblSkillsAchieved	Sort:						Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Criteria:				"beginner"	No	or:						SkillID	Skill	TrainerID	Name	tblSkillsAchieved	tblSkill	tblTrainer	tblTrainer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Between 6 And 13				
	Field:	CyclistID	FirstName	Surname	LevelAchieved	SkillAchieved?																																																		
	Table:	tblCyclist	tblCyclist	tblCyclist	tblCyclist	tblSkillsAchieved																																																		
	Sort:																																																							
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																			
Criteria:				"beginner"	No																																																			
or:																																																								
SkillID	Skill	TrainerID	Name																																																					
tblSkillsAchieved	tblSkill	tblTrainer	tblTrainer																																																					
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																					
Between 6 And 13																																																								
B1	Correct related tables added (cyclist, trainer, skills, skills achieved)	follow through on any missing tables so long as at least two different tables in database	1																																																					
B2	Criteria correct for LevelAchieved <ul style="list-style-type: none"> • "beginner" • <> "failed" 		1																																																					
B3	Correct criteria for SkillAchieved? e.g. <ul style="list-style-type: none"> • no • false 		1																																																					
B4	Correct criteria for SkillID e.g. <ul style="list-style-type: none"> • Between 6 and 13 • >5 and <14 • >=6 and <=13 • Between 1 and 13 so long as LevelAchieved is set to Beginner or <> failed 		1																																																					
Total			4																																																					

Question number	Answer	Additional Guidance	Mark																
2(b)(ii)	<p>Beginner to intermediate trainer and cyclist report</p>  <p>Beginner to Intermediate Cyclists</p> <p>This is a list of cyclists who failed intermediate level. Please invite them to the summer course.</p> <table border="1"> <thead> <tr> <th>Trainer:</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>Cherey Aysik</td> <td> <table border="1"> <thead> <tr> <th>Cyclist Name</th> <th>Number Skills Required</th> <th>Skills Required</th> </tr> </thead> <tbody> <tr> <td>Lynnette Demschke</td> <td>2</td> <td>Left turn into minor road Mini roundabout</td> </tr> <tr> <td>Ellsworth Rayhill</td> <td>1</td> <td>Mini roundabout</td> </tr> <tr> <td>Max Planke</td> <td>7</td> <td>Left turn into minor road Right turn into major road Passing side roads Mini roundabout U-turn Right turn into minor road Left turn into major road</td> </tr> </tbody> </table> </td> </tr> </tbody> </table>	Trainer:	Name	Cherey Aysik	<table border="1"> <thead> <tr> <th>Cyclist Name</th> <th>Number Skills Required</th> <th>Skills Required</th> </tr> </thead> <tbody> <tr> <td>Lynnette Demschke</td> <td>2</td> <td>Left turn into minor road Mini roundabout</td> </tr> <tr> <td>Ellsworth Rayhill</td> <td>1</td> <td>Mini roundabout</td> </tr> <tr> <td>Max Planke</td> <td>7</td> <td>Left turn into minor road Right turn into major road Passing side roads Mini roundabout U-turn Right turn into minor road Left turn into major road</td> </tr> </tbody> </table>	Cyclist Name	Number Skills Required	Skills Required	Lynnette Demschke	2	Left turn into minor road Mini roundabout	Ellsworth Rayhill	1	Mini roundabout	Max Planke	7	Left turn into minor road Right turn into major road Passing side roads Mini roundabout U-turn Right turn into minor road Left turn into major road		
Trainer:	Name																		
Cherey Aysik	<table border="1"> <thead> <tr> <th>Cyclist Name</th> <th>Number Skills Required</th> <th>Skills Required</th> </tr> </thead> <tbody> <tr> <td>Lynnette Demschke</td> <td>2</td> <td>Left turn into minor road Mini roundabout</td> </tr> <tr> <td>Ellsworth Rayhill</td> <td>1</td> <td>Mini roundabout</td> </tr> <tr> <td>Max Planke</td> <td>7</td> <td>Left turn into minor road Right turn into major road Passing side roads Mini roundabout U-turn Right turn into minor road Left turn into major road</td> </tr> </tbody> </table>	Cyclist Name	Number Skills Required	Skills Required	Lynnette Demschke	2	Left turn into minor road Mini roundabout	Ellsworth Rayhill	1	Mini roundabout	Max Planke	7	Left turn into minor road Right turn into major road Passing side roads Mini roundabout U-turn Right turn into minor road Left turn into major road						
Cyclist Name	Number Skills Required	Skills Required																	
Lynnette Demschke	2	Left turn into minor road Mini roundabout																	
Ellsworth Rayhill	1	Mini roundabout																	
Max Planke	7	Left turn into minor road Right turn into major road Passing side roads Mini roundabout U-turn Right turn into minor road Left turn into major road																	
B5	Title is in the page or report header – mark from design view only (do not accept title in detail section)		1																
B6	Title and introductory text is as given	Ignore minor errors in spelling or punctuation	1																
B7	Primary grouping by Trainer – mark from design view only		1																
B8	Secondary grouping by Cyclist – mark from design view only		1																
B9	Number Skills Required uses correct formula e.g. =Count(Skill)		1																
B10	Number Skills required in Cyclist header		1																
B11	Report formatting is as given		1																
		Total	7																
Total for question 2			17																

Question number	Answer	Additional Guidance	Mark																																		
3a	<p>Query for Chart</p> <table border="1" data-bbox="359 253 1318 421"> <tr> <td>Field:</td> <td>Skill</td> <td>Achievement: [NumAchieved]/60*100</td> <td>NumAchieved: CyclistID</td> </tr> <tr> <td>Table:</td> <td>tblSkill</td> <td></td> <td>tblCyclist</td> </tr> <tr> <td>Total:</td> <td>Group By</td> <td>Expression</td> <td>Count</td> </tr> <tr> <td>Sort:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Show:</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Criteria:</td> <td></td> <td></td> <td></td> </tr> </table> <table border="1" data-bbox="628 456 1136 707"> <tr> <td>SkillID</td> <td>SkillAchieved?</td> </tr> <tr> <td>tblSkill</td> <td>tblSkillsAchieved</td> </tr> <tr> <td>Group By</td> <td>Group By</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Between 14 And 19</td> <td>Yes</td> </tr> </table>	Field:	Skill	Achievement: [NumAchieved]/60*100	NumAchieved: CyclistID	Table:	tblSkill		tblCyclist	Total:	Group By	Expression	Count	Sort:				Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Criteria:				SkillID	SkillAchieved?	tblSkill	tblSkillsAchieved	Group By	Group By	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Between 14 And 19	Yes		
Field:	Skill	Achievement: [NumAchieved]/60*100	NumAchieved: CyclistID																																		
Table:	tblSkill		tblCyclist																																		
Total:	Group By	Expression	Count																																		
Sort:																																					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																		
Criteria:																																					
SkillID	SkillAchieved?																																				
tblSkill	tblSkillsAchieved																																				
Group By	Group By																																				
<input checked="" type="checkbox"/>	<input type="checkbox"/>																																				
Between 14 And 19	Yes																																				
A1	Fields include: <ul style="list-style-type: none"> Skill SkillID SkillAchieved? 		1																																		
A2	Criteria correct for SkillID e.g. <ul style="list-style-type: none"> Between 14 and 19 >13 and <20 >=14 and <=19 		1																																		
A3	Criteria correct for SkillsAchieved? e.g. <ul style="list-style-type: none"> Yes True "0" 0 		1																																		
A4	Number of cyclists achieved calculated correctly e.g. <ul style="list-style-type: none"> Count(CyclistID) 		1																																		
A5	Achievement calculated correctly e.g. <ul style="list-style-type: none"> Generated field for A4/60*100 		1																																		
A6	At least one generated field named sensibly		1																																		
		Total	6																																		

Question number	Answer	Additional Guidance	Mark														
3(b)(i)	Chart																
	 <table border="1"> <thead> <tr> <th>Skill</th> <th>Achievement</th> </tr> </thead> <tbody> <tr> <td>Pass queuing traffic</td> <td>90.0</td> </tr> <tr> <td>Perceive and deal with hazards</td> <td>91.7</td> </tr> <tr> <td>Prepare for a journey</td> <td>93.3</td> </tr> <tr> <td>React to hazardous road surfaces</td> <td>91.7</td> </tr> <tr> <td>Understand advanced road positioning</td> <td>93.3</td> </tr> <tr> <td>Understand driver blind spots</td> <td>91.7</td> </tr> </tbody> </table> <p style="text-align: center;">Chart data</p>			Skill	Achievement	Pass queuing traffic	90.0	Perceive and deal with hazards	91.7	Prepare for a journey	93.3	React to hazardous road surfaces	91.7	Understand advanced road positioning	93.3	Understand driver blind spots	91.7
	Skill	Achievement															
	Pass queuing traffic	90.0															
	Perceive and deal with hazards	91.7															
	Prepare for a journey	93.3															
	React to hazardous road surfaces	91.7															
	Understand advanced road positioning	93.3															
	Understand driver blind spots	91.7															
	B1	Bar/column/pie chart created		1													
B2	Meaningful chart title used		1														
B3	Axis shows skill description		1														
B4	Bar/column <ul style="list-style-type: none"> At least one axis shows suitable label Pie <ul style="list-style-type: none"> Suitable legend 		1														
B5	Bar/column <ul style="list-style-type: none"> Axis contains suitable scale Or data values are shown Pie <ul style="list-style-type: none"> Data values are shown 		1														
B6	Data values are formatted as %		1														
B7	Data values have a maximum of 2 decimal places	Must achieve B6 to achieve this	1														
B8	Chart is fit for purpose <p>Bar/column</p> <ul style="list-style-type: none"> No legend Appropriate sizing of elements on page (e.g. title larger than axis labels, data labels) Pie <ul style="list-style-type: none"> Appropriate sizing of elements on page (e.g. title larger than legend labels, data labels) 		1														
Total			8														

Question number	Answer	Additional Guidance	Mark
3(b)(ii)	PDF		
	B9	Screenprint clearly shows the chart is contained in a pdf document	1
Total			1
Total for question 3			15

Question number	Answer	Additional Guidance	Mark
4	Dashboard		
	A1	Four appropriately labelled buttons	1
	A2	Data entry form would open and query would run	1
	A3	Chart would open for viewing Query would open for viewing Report would print without opening report / report would print after report opened	1
			Total
Total for question 4			3

Question number	Answer	Additional Guidance	Mark
5	<p>Indicative content</p> <p>Note: Analysis and recommendations must be based on the content of Figure 2 e.g.</p> <ul style="list-style-type: none"> • May discuss LevelAchieved being removed from Cyclist table as could be generated from the skills completed. However, the extract does not show the recording of skills • Do not have to discuss or consider achievement as not shown in extract. <p><i>Analysis</i></p> <ul style="list-style-type: none"> • Fields <ul style="list-style-type: none"> ○ The database does not currently have <ul style="list-style-type: none"> ▪ Course Start Date ▪ Course End Date ▪ Level ▪ DOB ▪ Age ▪ Parental Consent ▪ School Consent • Trainer <ul style="list-style-type: none"> ○ The trainer name is already in the trainer table • Cyclist <ul style="list-style-type: none"> ○ CyclistID, Firstname and Surname is already in the cyclist table. ○ Age can be generated from DOB and today's date so does not need storing. Storing it could lead to anomalies as it would need updating every year • Level <ul style="list-style-type: none"> ○ A level has a range of skills associated with it • Courses <ul style="list-style-type: none"> ○ There can be many courses ○ A trainer can run many courses, but a course can only have 1 trainer ○ There can be many courses for a level, but a course can only have 1 level ○ A course can have many cyclists and a cyclist can do many courses <p><i>Recommendations</i></p> <ul style="list-style-type: none"> • Level table <ul style="list-style-type: none"> • would include a primary key such as LevelID and a LevelDescription such as Beginners • Skills table 		9

	<ul style="list-style-type: none"> • amended to include LevelID as a foreign key to create a link between the level and skills required • Cyclist table <ul style="list-style-type: none"> • should include three new fields DOB, School Consent and Parental Consent • TrainerID should be removed from here as the trainer is now linked to the course. • Course table <ul style="list-style-type: none"> • should be created and include CourseID as primary key, Course Start Date, Course End Date, TrainerID and LevelID as foreign keys • CourseEnrolment <ul style="list-style-type: none"> • should be created and include CourseID and CyclistID as a composite key 		
--	--	--	--

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • Analysis is flawed or superficial, containing simple statements that show limited understanding of the subject matter. • Solution may contain some aspects that are appropriate, but is generally ineffective.
Level 2	4-6	<ul style="list-style-type: none"> • Analysis is sound, containing minor inaccuracies or omissions, showing some understanding of the given issue. • Solution is workable but may have minor issues.
Level 3	7-9	<ul style="list-style-type: none"> • Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. • Solution is appropriate and workable.
Total for question 5		9

