



Cambridge IGCSE™

INFORMATION AND COMMUNICATION TECHNOLOGY

0417/21

Paper 2 Practical Test A

May/June 2020

MARK SCHEME

Maximum Mark: 80

Published

Students did not sit exam papers in the June 2020 series due to the Covid-19 global pandemic.

This mark scheme is published to support teachers and students and should be read together with the question paper. It shows the requirements of the exam. The answer column of the mark scheme shows the proposed basis on which Examiners would award marks for this exam. Where appropriate, this column also provides the most likely acceptable alternative responses expected from students. Examiners usually review the mark scheme after they have seen student responses and update the mark scheme if appropriate. In the June series, Examiners were unable to consider the acceptability of alternative responses, as there were no student responses to consider.

Mark schemes should usually be read together with the Principal Examiner Report for Teachers. However, because students did not sit exam papers, there is no Principal Examiner Report for Teachers for the June 2020 series.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the June 2020 series for most Cambridge IGCSE™ and Cambridge International A & AS Level components, and some Cambridge O Level components.

This document consists of **14** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Name, centre number, candidate number left aligned, automated page numbers right aligned, no other placeholders 1 mark

Mountain Bike Study

Revised by: Candidate Name

Title entered accurately 1 mark
MB-title listed in EV3 and applied 1 mark
(sans-serif, 36pt, centred, bold only, 0pt space before/after)

Subtitle – Name entered 1 mark
MB-subtitle style modified EV4
correct attributes – sans-serif, 18pt, right, italic, single line, 0 before 0pt after

Global Market Growth

Subheadings (5)

MB-subhead style applied 1 mark
matches style defined in EV2

Columns

Section break in correct position 1 mark
All text changed to 2 columns, 1 cm column spacing 1 mark

Mountain biking is a major sport that is witnessing an increase in the number of participants in competitive events worldwide. The market is expected to continue to grow. This sport has flourished in Europe and North America with surging sales of mountain bikes. Both areas have vast and scenic mountain ranges with Canada having some of the best mountain bike trails in the world. Asia Pacific is the fastest rising and most lucrative market due to the growing disposable incomes of people in the area, particularly in the nations of India, China, Australia, South Korea, Singapore and Taiwan.

Demographics

Most mountain bikers are aged between 20 and 40, with the average age being 26. The sport is dominated by young males with only 7% of participants being female. Most female

Bullets

Applied to correct data 1 mark
Square shaped bullets applied 1 mark
Bullets indented 2 cm from left margin, hanging indent, single line, 0pt space between 1 mark

explained by the relative newness of the sport, or may be due to the demanding physical nature of the activity which is less attractive to older sports enthusiasts. These demographic

Data shows that mountain bikers are a lucrative demographic to target. In general, younger men with higher than average household income and education. The bikers are willing to spend and the fact that they are treating themselves, which bodes well for the sport.

Health Benefits

Health issues such as obesity, heart disease and diabetes are on the rise and physical exercise, especially in the outdoors, is essential for health and well-being. Studies have found that people who cycle regularly have a life expectancy two years above average and enjoy a level of fitness equivalent to someone ten years younger. Mountain biking is an aerobic activity that gives the heart, blood vessels and lungs a thorough workout. It is a fun and exciting way to enjoy the many health benefits of regular exercise including:

- increased cardiovascular fitness
- improved joint mobility, muscle strength and flexibility
- better posture and coordination
- strengthened bones
- reduced body fat levels
- lower blood pressure
- strengthened immune system
- reduced stress levels, anxiety and depression.

Name, centre number, candidate number
At any age there is no better way to improve overall physical, mental and emotional health.
One reason many people choose mountain biking as a hobby is the potential for it to become a lifelong adventure.

2
One reason many people choose mountain biking as a hobby is the potential for it to become a lifelong adventure. The youngest world championship winner was just 16 years

Correct sentence copied to correct location, appears in both places 1 mark

Competitive Racing

Competitive mountain biking is a relatively new sport which originates from America where the first national mountain bike competitions were held in 1983. The sport gained in popularity and the discipline grew

Mountain Biking Tourism

Mountain bike tourism is booming worldwide and is the second highest grossing outdoor recreation category in America. The market has been driven by growing demand for active

Image
Image inserted in correct position 1 mark
Aligned to top of text and right margin, text wrapped 1 mark
Image cropped to remove sky (top 1/3) 1 mark
Resized to 3.5 cm wide 1 mark

increased interest in 'green' continued global development structure. Bikers are attracted and rugged landscapes and the explore and ride new trails. based in the same location with

and e-m...
2019.

daily mountain bike trails in the surrounding

Correct paragraph indented 1cm from left and right margins 1 mark
Thick (3–4pt) border applied to indented text 1 mark



Most...
into different categories and level of skill so the competition is balanced between riders with comparable age, skill and experience. In multi-lap courses the number of laps to be completed will depend on the type of race and rider ability category. Some races are time trials

Research has shown that mountain bikers take two mountain bike holidays each year and tend to stay longer and spend more per day than other tourists. On average they will ride for 4 hours 45 minutes each day and cover 55.5

Vertical bar chart created using correct data, year labels present 1 mark
Chart in correct place, within margins, all data fully visible, no overlap 1 mark
Chart title: Growth in Cross Country Events 1 mark
Y-axis displays label: Number of Events 1 mark
Y-axis displays minimum 9000, maximum 10500 1 mark
Y-axis displays increments set at 250 1 mark
Value data labels displayed above each bar, no legend or x-axis label 1 mark

country events

re-open the trail. It is now a 12km adventure mountain bike trail with a downhill descent of



MB-Body style seen in EV3 and applied serif, 12pt, justified, single line, 0 before, 6pt after 1 mark
Doc complete/paras intact, A4, portrait, margins 2 cm, spacing consistent, columns aligned at top, no widows/orphans, no overlap in chart, chart, list & bordered paragraph not split, no blank pages, 6pt after bullets 1 mark

Title

Title 100% accurate, top of page, no other text

1 mark

Top Ability Females

Name, centre number, candidate number

First_Name	Last_Name	Gender	Club	Licence	Points	Ability
Daena	Perry	Female	Procycles Racing	Yes	150	Elite
Danielle	Gibson	Female	Cyclemeisters	Yes	125	Elite
Madeleine	Chamberlain	Female	Kernow Pedallers	Yes	125	Expert
Emily	Glendingning	Female	Tawara Bike Buddies	Yes	110	Expert
Clementine	Cunningham	Female	Redbike Rollers	Yes	110	Elite
Linda	De Boon	Female	Trail Blazers	Yes	100	Expert
Nicole	Ecerova	Female	Velocity Bikers	Yes	100	Elite
Julia	Jackson	Female	Camel Cycling	Yes	90	Expert
Sian	Maclean	Female	Kernow Pedallers	Yes	90	Elite
Jane	Hagedorn	Female	Mountain Kings	Yes	80	Expert
Susan	Caskey	Female	Vortex Spoke	Yes	80	Elite
Zuzana	Gunawardena	Female	Procycles Racing	Yes	70	Elite
Safiya	Gamal	Female	Flying Cyclops	Yes	65	Elite
Genevieve	Michalski	Female	Kernow Pedallers	Yes	65	Expert
Jenny	Bourgue	Female	Endurance Cycles	Yes	60	Expert
Alana	Aardal	Female	Camel Cycling	Yes	60	Elite
Jennifer	Sinclair	Female	Hardcore Cycling	Yes	55	Elite
Ruby	Harris	Female	Camel Cycling	Yes	55	Expert
Laura	Widney	Female	Procycles Racing	Yes	50	Elite
Elizabeth	Turcott	Female	Kernow Pedallers	Yes	50	Expert
Jenaya	Keenlisde	Female	Trail Blazers	Yes	44	Expert
Meghan	Sullivan	Female	Tawara Bike Buddies	Yes	44	Elite
Emmanuelle	Leonardson	Female	Cyclemeisters	Yes	41	Elite
Patricia	Roberts	Female	Flying Cyclops	Yes	38	Elite
Christina	Callaghan	Female	Mountain Kings	Yes	38	Expert
Alex	Liu	Female	Kernow Pedallers	Yes	36	Elite
Su	Wai Wai Hnin	Female	Mud and Gears	Yes	36	Expert
Nadine	Turner	Female	Vortex Spoke	Yes	34	Expert
Janet	McConnachie	Female	Hardcore Cycling	Yes	30	Expert
Jill	Hurford	Female	Camel Cycling	Yes	28	Expert
Katy	Walters	Female	Mud and Gears	Yes	26	Expert

Specified fields, correct order

1 mark

Sort descending order of *Points*

1 mark

Portrait, all field present, fits a single page, no truncation

1 mark

Select records (31):*Ability* is **Elite** or **Expert**

1 mark

Gender is **Female**, *Licence* is **Yes**

1 mark

Bike Club

Title 100% accurate, fully visible, no other headings 1 mark
Title in a black, 28 point, serif font style 1 mark

Calculated field
Heading 100% accurate 1 mark
Calculated - correct values 1 mark
Displays as integer 1 mark

Last_Name	First_Name	Gender	Age_Jan	Category	Club	Event_Rank	Event	Lap_Time	Lap_No
Sheen	Marg	Female	70	Super Veteran	Tawara Bike Buddies	9	Yes	01:28:15	29
Popovic	Ramona	Female	67	Super Veteran	Redbike Rollers	8	Yes	01:25:16	28
Kulak	Alexandria	Female	63	Super Veteran	Redbike Rollers	4	Yes	01:20:42	27
Young	Amanda	Female	57	Super Veteran	Tawara Bike Buddies	14	Yes	01:20:00	27
Hitchcock	Marin	Female	54	Super Veteran	Tawara Bike Buddies	10	Yes	01:17:25	26
Woodward	Kristin	Female	52	Super Veteran	Tawara Bike Buddies	15	Yes	01:18:29	26
Green	Holly	Female	42	Veteran	Bike Runners	14	Yes	01:28:59	30
Britton	Jamie	Male	61	Veteran	Tawara Bike Buddies	10	Yes	01:20:09	27
Brophy	Ryan	Male	62	Veteran	Tawara Bike Buddies	15	Yes	01:33:54	31
Lockyer	Justin	Male	72	Super Veteran	Tawara Bike Buddies	16	Yes	01:22:40	21
Smith	Roslin	Female	67	Super Veteran	Velocity Bikers	4	Yes	01:14:26	19
McCrae	Peter	Male	65	Super Veteran	Redbike Rollers	12	Yes	01:18:23	20
Brophy	Ryan	Male	62	Super Veteran	Tawara Bike Buddies	1	Yes	01:11:19	18
Britton	Jamie	Male	61	Super Veteran	Bike Runners	5	Yes	01:15:26	19
Lockerbie	Jeffrey	Male	60	Super Veteran	Velocity Bikers	8	Yes	01:17:10	19
Myslicki	Reid	Male	59	Grand Veteran	Redbike Rollers	7	Yes	01:15:50	19
Honeyford	Adam	Male	59	Grand Veteran	Tawara Bike Buddies	27	Yes	01:24:55	21
Gordon	Lukas	Male	58	Grand Veteran	Velocity Bikers	42	Yes	01:32:43	23
Marshall	Logan	Male	57	Grand Veteran	Tawara Bike Buddies	8	Yes	01:16:18	19
Forrest	Mike	Male	55	Grand Veteran	Redbike Rollers	17	Yes	01:20:02	20
Bratt	Jayar	Male	55	Grand Veteran	Redbike Rollers	9	Yes	01:16:22	19
Whitehouse	Oleksa	Male	54	Grand Veteran	Tawara Bike Buddies	36	Yes	01:27:48	22
Brezsnyak	Jason	Male	52	Grand Veteran	Bike Runners	15	Yes	01:19:30	20
Jaeger	Isaac	Male	51	Grand Veteran	Velocity Bikers	30	Yes	01:26:11	22
Milward	Daniel	Male	50	Grand Veteran	Tawara Bike Buddies	12	Yes	01:18:26	20

Specified fields, correct order 1 mark
Sort ascending Gender then descending on Age_Jan, 1 mark
Landscape. one page wide. all base fields. no truncation 1 mark

New record Britton Jamie, 61, appears once, 1 mark
record Brophy Ryan, 62 still present 1 mark
New record entered accurately 1 mark

Select records (41):
Club contains Bike 1 mark
Age Jan is >=40, Event Rank does not include DNF 1 mark

Name, centre number, candidate number

Last_Name	First_Name	Gender	Age_Jan	Category	Club	Event_Rank	Licence	Race_Time	Lap_Time
Klein	Robert	Male	50	Grand Veteran	Velocity Bikers	6	Yes	01:14:50	25
Gooding	Denis	Male	49	Veteran	Bike Runners	43	Yes	01:24:12	21
Brassington	Vic	Male	48	Veteran	Velocity Bikers	6	Yes	01:11:55	18
Daniel	Chris	Male	48	Veteran	Velocity Bikers	37	Yes	01:22:23	21
Chilvers	Ryan	Male	47	Veteran	Tawara Bike Buddies	16	Yes	01:16:01	19
Naylor	Justin	Male	46	Veteran	Velocity Bikers	26	Yes	01:18:34	20
Platten	Trevor	Male	46	Veteran	Velocity Bikers	13	Yes	01:14:26	19
Stevens	Ian	Male	45	Veteran	Redbike Rollers	12	Yes	01:14:05	19
Malcolm	Daniel	Male	45	Veteran	Bike Runners	19	Yes	01:16:37	19
McGrath	Jean-Michel	Male	43	Veteran	Tawara Bike Buddies	17	Yes	01:16:12	19
Blackett	Nolan	Male	42	Veteran	Bike Runners	14	Yes	01:15:47	19
Watson	Ryan	Male	42	Veteran	Velocity Bikers	31	Yes	01:19:26	20
Cahill	Felix	Male	41	Veteran	Tawara Bike Buddies	22	Yes	01:18:01	20
Hughes	Mike	Male	40	Veteran	Bike Runners	47	Yes	01:25:39	21
Quinney	Tanner	Male	40	Veteran	Redbike Rollers	56	Yes	01:31:30	23
Walsh	Karol	Male	40	Veteran	Velocity Bikers	5	Yes	01:11:46	18

Average Age of Veterans 52

Calculates correct average age 52 1 mark
 Displayed as integer, positioned under *Age_Jan* column 1 mark
 Accurate label entered to left 1 mark

Formatting
Race Time displays hh:mm:ss, *Licence* as Yes/No 1 mark

Name, centre number, candidate number

Name, Centre number, candidate number
 displays in report footer, on every page 1 mark

Task 4 – Mail Merge

Glynn Valley Cycling Academy

Coburg Arena
CAMBRIDGE
CB1 3JC

Tel: 01632 882781

Email: enquiries@mtbracing.org.uk

20 September 2019

«Title» «First_Name» «Last_Name»
«Street»
«Area»
«Postcode»

Dear «First_Name»

Event Classification
Venue
Classification

Merge Fields inserted - <text> replaced – correct position and spacing, punctuation maintained for all

«Title» | «First_Name» | «Last_Name» | «Street» | «Area» | «Postcode» | «First_Name»

1 mark

«Race_Type» | «Ability» | «Category» | , «Club»

1 mark

«Practice_Run» - | «Race_Start» | «Type_ID» - «Race_Type»

1 mark

We have received your application form for the above event. Your race entry details are as follows:

You are entered for the «Race_Type» event in the «Ability» «Category» class. Any ranking points earned on the day will be credited to your riding club, «Club». The provisional event timetable is:

09:15 hours	Registration
«Practice_Run» - 10:45 hours	Course available for practice run
11:00 hours	Race brief. All riders must attend.
11:15 hours	Racing commences
«Race_Start» hours	«Type_ID» - «Race_Type» Event
15:30 hours	Awards ceremony

Medals will be awarded in each category for first, second and third place. Expert and Elite are ability categories that are only open to riders holding a fully endorsed race licence. To qualify for Expert and Elite ranking points riders must present their licence at the time of registration.

All equipment must be in good, safe, working condition. A safety-approved cycling helmet must be worn at all times. Gloves and eye protection are also highly recommended. No cycle-cross or hybrid bikes are permitted. All riders must display their race number which should be attached to the front of the bike prior to staging.

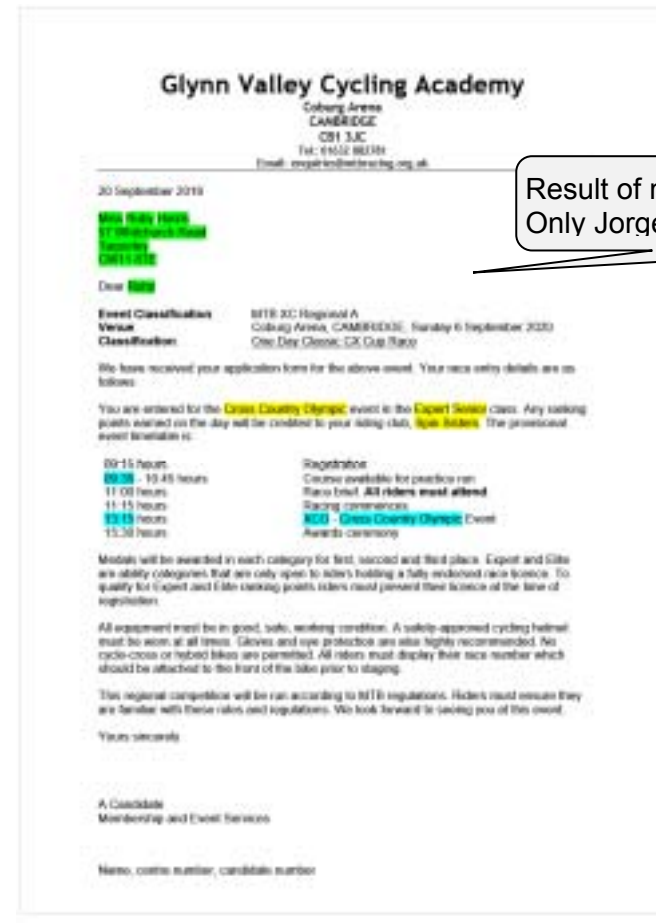
This regional competition will be run according to MTB regulations. Riders must ensure they are familiar with these rules and regulations. We look forward to seeing you at this event.

Yours sincerely

Master document printed,
Name, centre no & candidate no in the footer 1 mark

A Candidate
Membership and Event Services

Name, centre number, candidate number



Result of merge - 3 forms printed –
Only Jorge Lopez, Olaf Balcerzak, Ruby Harris 1 mark

Task 6 – Presentation

6 slides imported, title and bullet layout, no text changes, blank slides, or overlap of items, name inserted	1 mark
Master slide items same position and consistent on all slides	
Name, centre number, candidate number and auto slide numbers	1 mark
Logo inserted, appropriate size, aspect ratio maintained	1 mark

Slide 1 – changed to Title layout, title larger than subtitle, centred on slide, no bullet

1 mark


The Racing Course

- off-road venues with mixed terrain including parklands, forestry sites, fields and gravel paths
- incorporates climbs, descents and technical features
- races held over multiple laps of an undulating circuit
- number of race laps depends on type of event and rider category - less experienced riders tackle fewer laps
- to ensure similar lap times a hilly course will be shorter than a flat course

2

22/08/2018

Name, centre number, candidate number



Competition Types

Cross Country Race Types				
Type	Code	Min Age	Length (km)	Characteristics
Olympic	OCO	15 to 16		Riders released in groups, number of laps depends on ability category
Endurance	ECM	13 to 14		Riders released in groups, race run over single or multiple laps Controlled by individuals and/or teams
Points Race	PCP	17 to 21		Mass start endurance race Race starts in one location and finishes in another
Short Circuit	SCC	17 to 18	2	Start and finish in same location, race duration of less than 60 minutes A series of laps and final coast
Eliminator	ECI	17 to 18	1	Series of short circuit races controlled by elimination times Riders released in groups of 4 or 6, starts in one location and finishes in another Natural and artificial obstacles make a dynamic short race
Time Trial	ACT	13 to 15		Race against the clock Riders are set off individually or in teams and finish over a set distance
Team Race	ECR	17 to 18	1	Team competition must be mixed ability – minimum 1 female, maximum 1 170kg rider Rider between teams of 2 or more riders, each completes a single lap of a short circuit or eliminator race course
Stage Race	ECI	13 to 14		Multi-stage team race of 2 to 6 riders, held over 3 to 9 days with one stage per day Judged on total timepoints resulting from two or more stages Riders must complete each stage to be eligible for the next stage

3

- Slide 3 – layout changed to title and 5 × 9 table – all rows/columns fully displayed 1 mark
- All data copied into table, column widths adjusted, content fully visible, no split words 1 mark
- Text in all rows centre aligned vertically 1 mark
- New row inserted as first row of table, row merged and centre 1 mark
- Title **Cross Country Race Types** entered accurately in new row 1 mark
- Bold and 18pt font size applied to rows 1 and 2 only 1 mark
- Shading applied to rows 1 and 2 only 1 mark
- Plain table style applied no cell shading, all gridlines displayed 1 mark
- All slides printed with 2 slides to page 1 mark

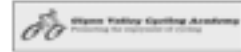
all other categories are based on age

- progression to elite/expert is through ranking points
- a full race licence is compulsory to qualify for national ranking points

4

22/08/2018

Name, centre number, candidate number

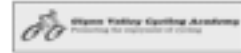


Racing Equipment

- lightweight bikes with front or dual suspension, strong brakes on all wheels and a wide range of gears to cope with mixed terrain
- wide knobbly tyres which help with off-road access
- bikes must be mechanically sound and capable of safely completing the course
- a protective helmet is compulsory

5

Name, centre number, candidate number



During the Race

- a good grid position and start are vital in mass start races
- a front number plate must be displayed at all times
- the use of headphones, earpieces or any communication devices is prohibited
- signposts every kilometre indicating the distance remaining to the finish line
- bike changes are not permitted
- technical assistance can only be given in the dedicated technical zone
- feeding is only permitted in the designated assistance zone

6

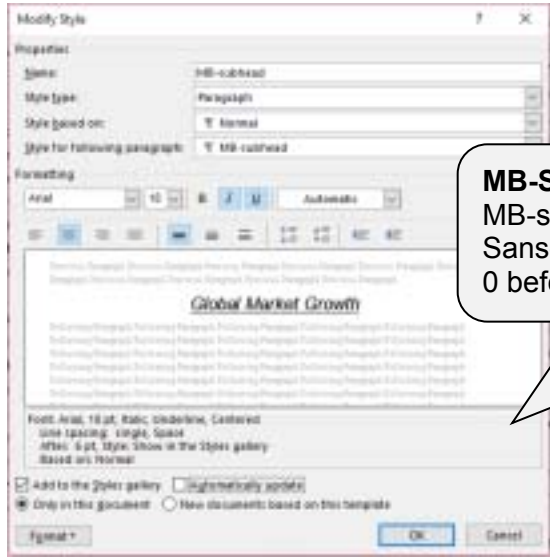
EVIDENCE DOCUMENT

Step 1 – EVIDENCE 1

File saved as **MTBSTUDY** with correct file type 1 mark

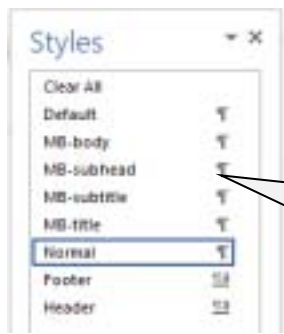


Step 3 – EVIDENCE 2



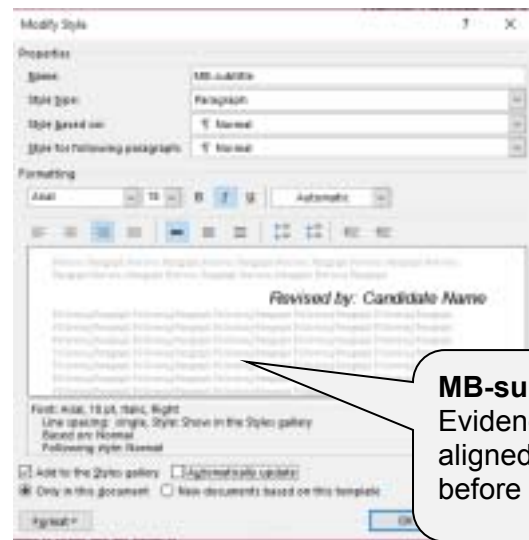
MB-Subhead
 MB-subhead style created, named correctly 1 mark
 Sans-serif, 18pt, centred, italic, underline,
 0 before, 6pt after, no other spacing set 1 mark

Step 3 – EVIDENCE 3



Style list
 All 3 styles correctly created, named and saved 1 mark
 MB-title | MB-subhead | MB-body

Step 6 – EVIDENCE 4



MB-subtitle – style modified
 Evidence of style modified, sans-serif, 18pt, right
 aligned, italic only, single line spacing, 0 space
 before and after 1 mark

Step 20 – EVIDENCE 5

Field Name	Data Type
Entry_ID	Short Text
Last_Name	Short Text
First_Name	Short Text
Club	Short Text
Cat_Code	Short Text
Birth_Date	Date/Time
Age_Jan	Number
Laps	Number
Race_Time	Date/Time
Event_Rank	Short Text
Points	Number
Race_No	Number
Licence	Yes/No

DB Structure

Field names as given, correct data types,
Entry_ID as primary key
 No other ID field

1 mark

Step 21 – EVIDENCE 6

1-to-Many relationship between *Cat_Code* fields

1 mark

Step 24 – EVIDENCE 7

=Avg([Age_Jan])

Calculated average

1 mark

Step 25 – EVIDENCE 8

Bike Club Veterans.pdf 22/08/2018 10:52 Adobe Acrobat Document 224 KB

Report 1 exported and saved in pdf format

1 mark

Step 26 – EVIDENCE 9

Field used to insert 'today's' correct date in format dd MMM yyyy

1 mark

{ DATE \@ "dd MMMM yyyy" * MERGEFORMAT }

Step 29 – EVIDENCE 10

Paragraph 1
 Last Modified: 22/08/2018 10:52
 Event Classification: MTB XC Regional A
 Venue: Coburg Arena, CAMBRIDGE, Sunday 6 September 2020
 Classification: One-Day Classic: CX Cup Race
 We have received your application form for the above event. Your race entry details are as:

Left aligned tab set at 5 cm

1 mark

Tab used to align all 3 headings at 5 cm

1 mark

Step 30 – EVIDENCE 11

Mail Merge selection filter

Automated filter used to select Level is *Elite* or *Expert*

1 mark