



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2022
Physical Education
Higher Level

Tuesday 28 June Afternoon 2:00 - 4:30

170 marks

Examination Number

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Day and Month of Birth

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Instructions

There are **three** sections in this paper.

Section A	Short answer questions	40 marks
Section B	Case study	50 marks
Section C	Long questions	80 marks

Answer questions as follows:

- Any **five** of the twelve questions in Section A
- Question 13 in Section B – Case Study
- Any **two** of the five questions in Section C.

Write your answers in the spaces provided in this booklet. There is space for extra work at the end of the booklet. Label any such extra work clearly with the question number and part.

Write your answers in blue or black pen.

This examination booklet will be scanned and your work will be presented to an examiner on screen. Anything that you write outside of the answer areas may not be seen.

Section A**40 marks**

Answer any **five** questions, from questions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12.

Question 1

The Collins Dictionary defines a characteristic as:

A distinguishable quality, attribute or trait.

Identify **four** characteristics that you would associate with the performance of highly skilled athletes.

1.
2.
3.
4.

Question 2

In 2019 soccer club Real Madrid extended their shirt sponsorship deal with German brand Adidas in what is believed to be the most lucrative sports kit sponsorship deal in soccer history.

According to sportsmedia.com:

Factoring in merchandising, it means the La Liga club could reportedly earn as much as 152 million per year.



Figure 1

(a) Define the following terms as they relate to sport: sponsorship and merchandising.

Sponsorship
Merchandising

(b) Discuss the impact that merchandising can have on sport.

Question 3

Explain **two** strategies that an athlete could use to enhance their mental preparedness during performance in a physical activity of your choice.

Physical Activity

Question 4

As an impatient first year coach, I lacked these skills and became quickly frustrated at the slow learning curve exhibited by the basketball players on the Dayton Greendevils team.

Basketball hall of fame Coach John Wooden discussing the importance of interpersonal skills in basketball coaching in his autobiography *Wooden on Leadership*.



Figure 2

Identify **four** interpersonal skills that are desirable for effective coaching.

1.
2.
3.
4.

Question 5

Joanne O’Riordan: Opportunity is key for Ireland’s sportswomen

Given a chance, the likes of Rachael Blackmore show the heights that can be achieved

⌚ Thu, Sep 9, 2021, 06:00 | Updated: Thu, Sep 9, 2021, 08:57



Joanne O’Riordan

Figure 3

The last year has shown us what can be achieved or made possible if people give those asking for a chance their opportunity.

Describe how **two** developments over the past 20 years have enhanced opportunities for physical activity participation for **one** of the following groups:

- Women
- Older Adults
- People with physical disability
- People with intellectual disability
- Different ethnic groups
- Different socio-economic groups.

Group

Question 6

Ice hockey is characterised by high intensity intermittent skating with rapid changes in velocity. The intensity and duration determine the extent of the contribution from energy systems.

Explain how **two** of the body’s energy systems contribute to performance in a physical activity of your choice.

Physical Activity

Question 7

A criterion for scoring in a surfing performance is “speed, power and flow”. In an interview with the Olympic Channel, International Surfing Association technical director, Eric Krammer speaks about what is meant by flow:

For me and a lot of the judges, it’s the art, it’s the nature of surfing.



Figure 4 Donegal surfer Easkey Britton

- (a) ‘Artistic and/or aesthetic criteria of performance’ are used in analysing or scoring performance in some physical activities.

Explain artistic and/or aesthetic criteria of performance.

- (b) State **two** artistic and/or aesthetic criteria for performance appropriate for a physical activity of your choice.

You are **not** permitted to choose surfing as your physical activity.

Physical Activity
1.
2.

Question 8

In his article *Olympic Physics: The Discus*, Matt Shipman states:

The athlete begins to spin, first on the right leg, then on the left. This builds up speed, or velocity which can be translated into momentum for the discus.

- (a) Name the plane and axis through which a discus thrower moves when they spin before releasing the discus.

Plane
Axis

- (b) Identify a movement from a physical activity of your choice that occurs in the same plane and axis identified by you in (a).

You are **not** permitted to use an athletics event as your physical activity.

Physical Activity
Movement

- (c) Shipman mentions speed, velocity and momentum in describing the physics involved in discus throwing.

Categorise each of these quantities as either a vector **or** a scalar.

Quantity	Vector or Scalar
Speed	
Velocity	
Momentum	

- (d) Give a reason why you categorised velocity as a vector **or** scalar quantity in (c)?

Question 9

Mass participation events are a concept of physical activity and can be described as events where a large number of participants engage in a physical activity at the same time.

Explain **two** concepts of physical activity other than mass participation events.

[illegible]

Question 10

In 2018 a soccer referee was suspended for 3 weeks for “*not acting in the best interest of the game*”. Having left his coin in the dressing room, the referee made the captains play a game of rock, paper, scissors to determine the selection of ends and who got tip off to start the game.

Describe the importance of **two** pieces of personal attire and **two** pieces of equipment for an official in a physical activity of your choice.

You are **not** permitted to use a coin as part of your answer.

[illegible]

Question 11

Figure 5 is a graphic released by Sport Ireland in their 2020 anti-doping annual review document. The annual review provides a comprehensive overview of all the activities conducted by the Irish Anti-Doping Programme in 2020.

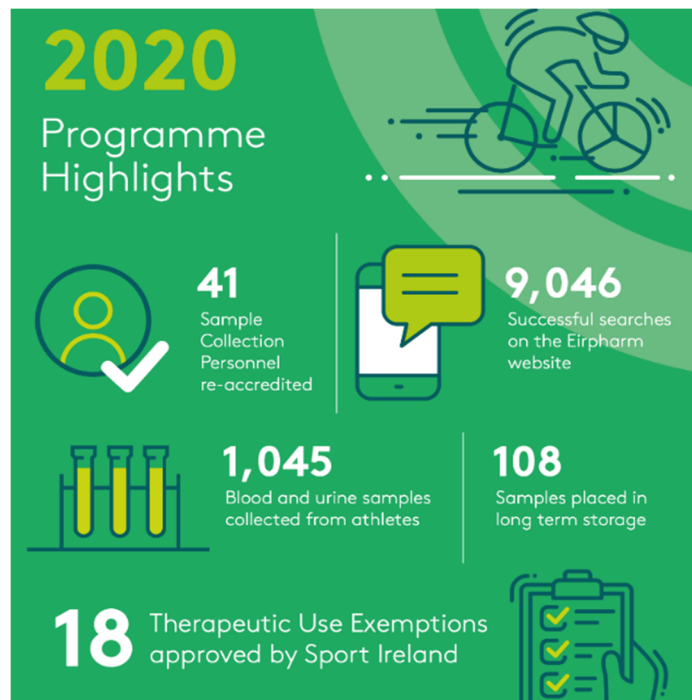


Figure 5

(a) What is a therapeutic use exemption (TUE)?

(b) Describe **two** circumstances where Sport Ireland might grant a TUE to an athlete.

Question 12

- (a)** 'Health related fitness is the same as performance related fitness'.
Discuss the accuracy of this statement.

- (b)** Define the component of performance related fitness agility.

- (c)** Outline the importance of agility to successful performance in a physical activity of your choice.

Physical Activity

Examine the text and images in the Case Study below and answer question 13.

Natalya Coyle is an Irish athlete who has represented her country at 3 Olympic Games. Natalya competes in the sport modern pentathlon. Modern pentathlon is a multi-event sport which consists of fencing, 200m swimming, show jumping as well as an event combining cross country running and pistol shooting.

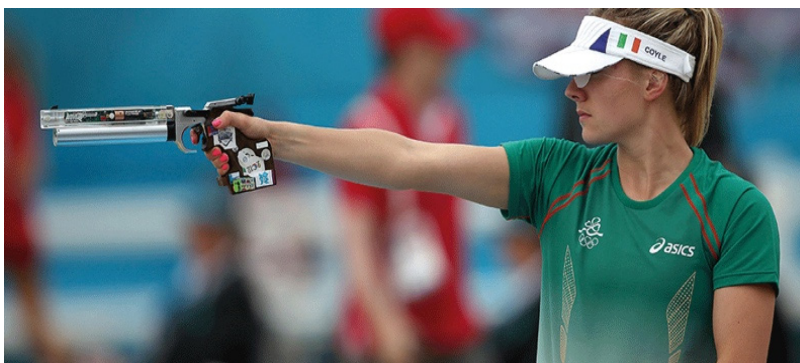


Figure 6



Figure 7

In a 2011 interview with the International Olympic Committee (IOC) Natalya highlighted that show jumping was her favourite event in pentathlon as she had ridden horses for years up to that point. Natalya also revealed:

I only just picked up fencing a couple of years ago so I have to work really hard at that compared to the others.

What makes this revelation particularly interesting is the fact that Natalya performed incredibly well in the fencing event at the Tokyo games in 2021, finishing in joint third position.



Figure 8

Modern pentathlon can be an expensive sport to participate in, especially at the elite level. Expenses include; purchasing specialist equipment, accessing elite level coaching as well as the travel and accommodation costs incurred when competing in different countries. **Figure 9** gives details of the competitions that Natalya competed in, in the 6 month lead up to the London 2012 Olympics.

Thanks to her high level performances Natalya has had access to various forms of funding which have enabled her to develop as a pentathlete. In 2011 Natalya was the recipient of an Olympic solidarity scholarship through the Olympic Council of Ireland.

Date of Event	Competition and Location	Finishing Position
11 th March 2012	UIPM World Cup 1 Charlotte, United States	18
18 th March 2012	UIPM World Cup 2 Rio De Janeiro, Brazil	32
15 th April 2012	UIPM World Cup 3 Százhalombatta, Hungary	38
22 nd April 2012	UIPM World Cup 4 Rostov, Russia	10
13 th May 2012	UIPM 2012 Pentathlon World Championships Rome, Italy	39
27 th May 2012	UIPM World Cup Final Chengdu, China	21
10 th July 2012	Senior European Championships Sofia, Bulgaria	11
12 th August 2012	XXX Olympic Games, Modern Pentathlon Event London, Great Britain	9

Figure 9

When asked in her 2011 interview with the IOC about the importance of receiving such a support Natalya commented:

Without it, I wouldn't be able to compete. It's an expensive sport, but fortunately because of the scholarship I've been able to go to all the World Cups, which helped me qualify for the World Cup Final, and hopefully I'll be able to qualify for London 2012. Without it I really wouldn't have been able to go anywhere.



Figure 10



Figure 11

Natalya did qualify for the London Olympics and after finishing in the top 10, more scholarships and sponsorship deals followed which enabled her to continue to pursue excellence in her sport. On a sponsorship deal with Electric Ireland prior to the Rio 2016 Olympics Natalya commented:

We've been trying to build the profile of the sport, and London really helped for that as more people became aware of it and I've been lucky now to get a sponsor such as Electric Ireland – it's huge, especially for my sport, it shows that we're getting out there which is fantastic.

More recently, in 2021, Natalya was revealed as a brand ambassador for O'Brien's Sandwich Cafés.

Question 13**(50 marks)**

- (a) (i) Identify the stage of learning that Natalya was most likely at when she began to learn the skills of fencing.

- (ii) Describe **two** ways that a performer at the stage of learning identified by you in (i) could improve their skill level.

- (b) Natalya's continued success in modern pentathlon has been helped by the sponsorship deals and scholarships that she has been rewarded with throughout her career. However, sponsorship deals often come at a cost for athletes.

Outline **three** possible disadvantages of sponsorship for Natalya.

- (c) (i) Identify **two** approaches to training outside of her activities/events that Natalya could use to enhance her athletic performance.

- (ii) Discuss how both of the approaches to training identified by you in (i) might help Natalya's pentathlon performance.

- (d)** Natalya comments on the impact of her participation at the London Olympics on building the profile of her sport. Role models like Natalya can have a significant positive impact on the physical activity engagement of others.

Examine **two** approaches that can be used to promote physical activity participation. You are **not** permitted to use role models in your answer.

[illegible]

- (e)** Analyse the physical and technical demands for a performer in a physical activity of your choice.

You are **not** permitted to use pentathlon as your chosen physical activity.

[illegible]

Section C**80 marks**

Answer any **two** questions, from questions 14, 15, 16, 17 and 18.

Question 14**(40 marks)**

- (a) Describe appropriate first aid treatment for **two** different injuries commonly sustained by participants in a physical activity of your choice.

Physical Activity
Injury 1
First Aid Treatment
Injury 2
First Aid Treatment

(b)

Much like flossing teeth, warming up is often something athletes know they should be doing but don't make a habit of.

- (i)** Describe a warm-up structure that athletes can use to ensure that they are appropriately prepared for their upcoming performance.

- (ii)** Outline **two** reasons why a coach would include a cool down at the end of a training session.

- (c) Students of the Bachelor of Science in Health and Leisure studies course at MTU (Munster Technological University) Kerry, have the option to specialise in adapted physical activity in the third year of their programme.

(i) Explain 'adapted physical activity'.

(ii) Suggest **three** ways that your school could enhance provision for adapted physical activity opportunities.

(d)

Sport is not just about maximising the performance of the athlete, it is also about minimising the energy that is lost as we run, swim or slide through the fluids around us. Engineers now know that understanding the forces that dominate a particular sport is crucial to performing well.

Examine how each of Newton's **three** laws of motion apply to performance in a physical activity of your choice.

Physical Activity

Question 15

(40 marks)

(a)



Figure 12

The popularity of mass participation events such as the “Regeneron Great Limerick Run” have dramatically increased in recent years.

Describe **two** opportunities that mass participation events provide for business and enterprise.

(b)

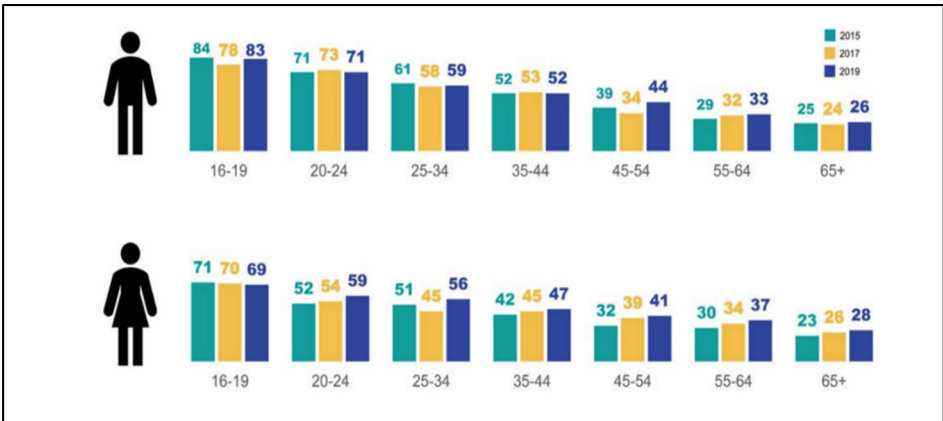


Figure 13

Figure 13, taken from the 2019 Irish Sports Monitor Report, illustrates the % of Irish males and females that participated in a sport in 2015, 2017 and 2019.

Examine how women **or** another group (from the list below) might tackle the barriers that exist for them in relation to participation in physical activity:

- Older Adults
- People with physical disability
- People with intellectual disability.
- Different ethnic groups
- Different socio-economic groups

[illegible]

(c)

Anxiety is a concept that is widely discussed by performers and coaches. Practitioners involved in sports performance need to be aware of anxiety related symptoms. Once awareness is built it would be prudent to deal with anxiety related issues.

(i) Define the psychological factor anxiety.

(ii) Discuss how anxiety might impact an athlete's performance.

(iii) Describe how **another** psychological factor that you have studied might impact an athlete's performance.

(d)



Figure 14

"I don't care how concerned McDonald's are about grass-roots sports, the only thing my kids' think when they see the Golden Arches is what burger and fries combo they want me to buy them, not kicking a footy around!"

Figure 15

- (i) You are writing a code of practice document for a youth sports club. State **three** criteria that you would include in the document for the selection of a commercial sponsor for the club.

1.
2.
3.

- (ii) Choose **two** of the criteria stated by you in (i) and outline why you would include these in your code of practice for selecting a commercial sponsor for a youth sports club.

Question 16**(40 marks)**

(a) (i) Integrity is a principle of ethical practice in sport. Define integrity.

(ii) Outline the importance of integrity to a physical activity of your choice.

Physical Activity

(iii) Identify a second principle of ethical practice.

(b)

How Lance Armstrong's drug abuse scandal has battered the reputation of international cycling



Our resident bike nut, who followed the multiple Tour de France winner's career with awe, on the conflicting emotions provoked by the sport's latest drug scandal

Simon O'Hagan | Thursday 11 October 2012 15:10 | comments



Figure 16

Examine the notion that athletes who use performance enhancing drugs (PEDs) can cause significant damage to the sport that they compete in.

- (c) Using the following table, identify **three** categories of PEDs, name an example of a drug in each category and state a performance enhancing effect of each of the named PEDs.

Category of PED	Example of PED	Performance enhancing effect of the PED

(d)

The most effective way to develop your natural sports ability and achieve your fitness goal is through efficient training combined with optimal nutrition.

Examine **three** nutritional considerations for designing a dietary plan for an athlete in a named physical activity.

You are **not** permitted to examine the use of sports supplements as part of your answer.

Physical Activity

Question 17**(40 Marks)****(a)**

Research has demonstrated that the aesthetic quality of dance performance is in part explained by fitness and that dancers who participate in structured fitness programmes subsequently receive higher ratings on measures of performance quality. Upper body muscular endurance is one aspect of fitness that has been shown to relate to aesthetic competence.

**Figure 17**

(i) Define muscular endurance and muscular strength.

Muscular Endurance
Muscular Strength

(ii) Describe the difference between training for muscular endurance and muscular strength from the perspective of intensity.

- (b) (i) Define **three** principles of training that could be used by coaches when designing training plans to enhance athletes' fitness levels.

- (ii) Name **another** principle of training and outline its importance in the design of effective fitness training plans.

- (c) Outline an appropriate method of analysing each of the following **four** aspects of performance:
 Choreography; Psychological preparedness; Skill and Technique; Structures and Strategies.
 You are **not** permitted to use the same method of analysis for more than one aspect of performance.

Choreography
Psychological Preparedness
Skill and Technique
Structures and Strategies

(d) (i) Name the National Governing Body (NGB) for a named physical activity of your choice.

Physical Activity
National Governing Body

(ii) Examine how the NGB, named by you in **(i)**, provides support for local participation in the physical activity.

[illegible]

Question 18**(40 Marks)**

- (a) (i) Complete the following table related to the use of levers in the execution of skills/techniques.

Class of Lever	Physical Activity	Skill/Technique	Joint Action
1 st			
2 nd			
3 rd			

- (ii) Select **one** class of lever and explain how the skill/technique identified by you in (i) uses that class of lever.

(b)

Sport Ireland will be writing to all National Governing Bodies and Local Sports Partnerships to highlight the importance of actively exploring how we all can do better, both collectively and individually, to combat discrimination in sport.

Discuss **two** examples of how discrimination might affect physical activity provision for **one** of the following groups:

- Women
- Older Adults
- People with physical disability
- People with intellectual disability
- Different ethnic groups
- Different socio-economic groups.

Group

(c) (i) Name a national policy that promotes physical activity participation.

(ii) Discuss **two** social benefits of physical activity participation for adults.

(iii) Outline **three** supports to physical activity participation that teenagers may have in post primary school settings.

(d)

Tourism Ireland welcomes the news that the Ryder Cup will take place in Ireland in 2026

Figure 18



Figure 19

Golf is the world's largest sports-related travel market and one that Tourism Ireland is committed to growing. Over the coming years, Tourism Ireland will roll out an extensive programme of promotions around the world, to leverage the tourism benefits of the Ryder Cup taking place in Ireland in 2026.

(i) Discuss the role that sports marketing can have in the promotion of tourism in Ireland.

- (ii) During the course of your studies you investigated the involvement of a named business in sport. Outline **three** key findings from your investigation.

Business Name

Space for extra work

Indicate clearly the question number and part of the question(s) you are answering.

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Acknowledgements

Q1:

<https://www.collinsdictionary.com/dictionary/english/characteristic#:~:text=The%20characteristics%20of%20a%20person,them%20and%20make%20them%20recognizable.&text=A%20quality%20or%20feature%20that,and%20seems%20typical%20of%20them.>

Q2: <https://versus.uk.com/2021/06/adidas-real-madrid-celebrate-clubs-community-new-2122-home-kit/>

<https://www.sportspromedia.com/news/real-madrid-confirm-adidas-kit-extension/>

Q4: Wooden, J & Jamison, S. (2005). *Wooden on Leadership*. 1st edition McGraw- Hill

<https://www.wsj.com/articles/SB10001424052702304347904579308650952252322>

Q5: <https://www.irishtimes.com/sport/other-sports/joanne-o-riordan-opportunity-is-key-for-ireland-s-sportswomen-1.4668314>

Q6: Montgomery D.L (1988). *Physiology of ice hockey*. Sports Med

Q7: <https://olympics.com/en/news/surfing-explained-how-the-new-olympic-sport-is-judged>

<https://www.thesun.ie/fabulous/2183719/irish-surfing-legend-easkey-britton-reveals-how-hitting-the-waves-helps-her-leave-behind-everything-that-stresses-her-out/>

Q8: <https://news.ncsu.edu/2012/07/olympic-physics-the-discus/>

Q10: <https://www.irishtimes.com/sport/soccer/referee-suspended-after-rock-paper-scissors-replaces-coin-toss-1.3697484>

Q11: https://www.sportireland.ie/sites/default/files/media/document/2021-04/ad_report_final_english.pdf

Q13: <https://www.rudehealthmagazine.ie/natalya-coyle>; <https://twitter.com/natalyacoyles/status/890912186880667648>;

https://www.instagram.com/p/BvkJu39nwAv/?utm_source=ig_embed; <https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>;

<https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>; <https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>;

<https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>; <https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>;

<https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>; <https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>;

<https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>; <https://olympics.com/tokyo-2020/en/sports/modern-pentathlon/>;

Q14 b: Joyce, D., & Lewindon, D. (2014). *High-Performance Training for Sports*. Human Kinetics; p. 99

Q14 d: <https://www.newscientist.com/article/mg21528722-700-sports-engineering-th-physics-of-sport/>

Q15 a: <https://www.live95fm.ie/local/regeneron-great-limerick-run-2020/>

Q15 b: <https://www.sportireland.ie/sites/default/files/media/document/2020-09/irish-sports-monitor-2019-report-lower-res.pdf>

Q15 C: <https://believeperform.com/anxiety-in-sports-performance/>

Q15 d: <https://sponsorship.org/mcdonalds-puts-the-fun-into-football-with-first-ever-tv-advert-for-19-year-long-grassroots-football-programme/>;

<http://www.essentialkids.com.au/activities/sport/does-maccas-have-a-place-in-kids-sport-20120604-1zqw7>

Q16 b: <https://www.independent.co.uk/voices/comment/how-lance-armstrong-s-drug-abuse-scandal-has-battered-the-reputation-of-international-cycling-8207133.html>

Q16 d: Bean A., (2013). *The Complete Guide to Sports Nutrition* 7th edition Bloomsbury Publishing

Q17 a: <https://www.targettrainingdance.com/post/strength-training-for-irish-dance>; <https://www.joelminden.com/upper-body-endurance-in-modern-dancers/>

<https://www.joelminden.com/upper-body-endurance-in-modern-dancers/>

Q18 b: <https://www.sportireland.ie/news/sport-ireland-statement-on-racism-discrimination>

Q18 d: <https://www.tourismireland.com/Press-Releases/2019/July/Tourism-Ireland-welcomes-the-news-that-the-Ryder-C>

<https://lovebelfast.co.uk/adare-manor-to-host-2026-ryder-cup/>

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Leaving Certificate – Higher Level

Physical Education

Tuesday 28 June

Afternoon 2:00 - 4:30