

MSAP

Mature Students Admissions Pathway

Information Booklet

Includes valuable advice on how to prepare and some sample questions

A full Practice Test booklet is available for purchase from the MSAP website

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Contact us:

The MSAP Office prefers communication by email
MSAP Ireland Office: msap-ireland@acer.org
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Before Test Day

Admission Ticket

Approximately 1 week before the test date, candidates receive an email from the MSAP Office to confirm the availability of their Admission Ticket.

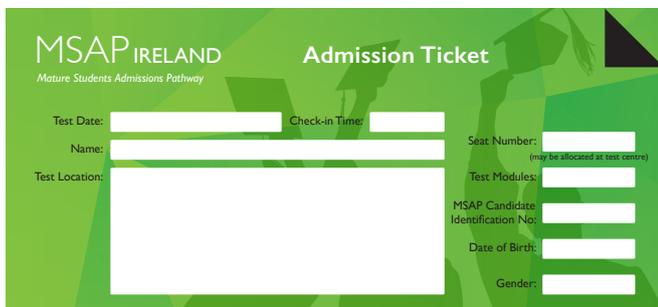
Candidates must access their ticket and **print it out WELL BEFORE the test day to avoid last minute issues.**

Admission Tickets are accessed by logging into the ACER User Account created when booking the MSAP test.

Candidates need their username (email address) and password to log in. If any issues are encountered in printing out the Admission Ticket, please contact the MSAP Office before the test day.

The Admission Ticket contains the required time and exact building details at which candidates should report to their test location.

Candidates must take their Admission Ticket and required identification to the test. They may not be admitted without both documents.



Identification

On the day of the test you are required to present ONE original photo-bearing identification document.

IMPORTANT: Garda ID and Student cards are not accepted as identification.

Photocopies of identity documents and expired documents are not acceptable.

The only acceptable identification documents are:

- A valid passport, **or**
- A current EU/EEA National Identity Card, **or**
- A current photo-bearing driver licence (learner's permit, probationary or full licence), **or**
- A Public Services Card,
or if you have none of the above documents,
- A certified letter of identification.
 - This letter must be on official institution letterhead (eg school, employer; doctor; Garda, etc.)
 - It should contain your full name, date of birth and a passport-sized photo of you glued to the letter
 - The institution's stamp must overlap the photo
 - The official verifying the identification must include their signature and title
 - A witness to the official's signature is required
 - Your signature is required

If you need to provide a certified letter of identification, please organise this **well before the test date**. Scan it and email it to the MSAP Office so we can confirm that it is correct in its content and presentation. If it does not conform to the criteria described above, you may be turned away from the test centre.

If you do not present one of the above approved identification documents, in addition to your Admission Ticket, you will not be able to sit MSAP and will be turned away from the test centre.

On Test Day

Timing

Please report to the test centre at the venue address and time specified on your **Admission Ticket**. There will be clear directions to the check-in table where you should line up. The test will start 30-45 minutes later, depending on the amount of time necessary for pre-test procedures.

You should expect to allow between 3 - 3.5 hours at the venue. This will include time for checking in all candidates, pre-test procedures, instruction time, handing out and collection of test papers, and actual test time.

If you report to the test venue after all candidates have been admitted to the test room you may not be admitted. No latecomers will be admitted once the test has started.

What to Bring

- your printed MSAP Admission Ticket (with required details completed)
- one form of an approved photo-bearing identity document
- blue or black pens (for Module 1)
- pencils (medium soft 2B or HB, preferably 2B), and eraser (for Modules 2 & 3).

We endeavour to provide storage areas for candidate property during the test at the test centres, but you are advised to bring only essential items to the test centre with you. ACER cannot be held responsible for any loss, damage or theft of personal items.

Bottled water is permitted.

Please EAT A MEAL before reporting to the test centre, as you will be occupied for a number of hours and no food is permitted without prior consent.

Please DRESS WARMLY IN LAYERS under your coat so you are prepared with comfortable clothing to suit the room temperature. Coats are removed, and temperatures in large test rooms can vary.

Prohibited Items

Use of unauthorised aids is prohibited, including but not limited to:

- Audio, recording or electronic devices of any kind, including mobile phones, ipad, mp3 player, electronic organiser, tape recorder, camera

- Calculators
- Dictionaries
- Food (unless permission is granted by the MSAP Office based on medical grounds)
- Notes or note paper
- Stationery items other than pens, pencils and eraser

Misconduct

MSAP is a high-stakes test; the results of the test have the potential to make a major impact on the future career of the test taker. For this reason, ACER has established security procedures that will be strictly enforced at all times. The giving of false or misleading information during the registration process, and any form of cheating during the test itself, are viewed as serious breaches of ethical behaviour and will attract penalties. Any candidate found to be cheating will automatically have their MSAP results cancelled and may be prohibited from registering to take MSAP on a future occasion.

Candidates are expected to abide by the test rules and to follow the instructions of the test supervisors at all times. You are asked to respect the rights of test supervision staff, ACER staff, and other candidates who may be sitting the test at the same time as you.

Please be aware that if you act in a manner that is intentionally disruptive, offensive or abusive during your test session, or in your verbal or written communications with ACER or other test staff before, during or after the test, or if you engage in any acts listed unacceptable behaviour or misconduct, you will be reported and subject to the **consequences** listed below.

Examples of unacceptable behaviour include, but are not limited to:

- emotional, psychological or physical violence or abuse
- bullying
- sexual harassment
- racial and religious vilification
- occupational violence
- coercion, harassment and/or discrimination
- aggressive/abusive behaviour
- unreasonable demands and undue persistence
- disruptive behaviour.

Behaving in an unacceptable manner will be considered an act of misconduct and subject to the **consequences** listed below.

Misconduct for the test includes:

- Breach of any of the security arrangements for the test.
- Impersonation (attempting to take the test on behalf of another person or have another person take the test for you).
- Attempting to copy or memorise all or part of the test.
- Failure to follow the instructions of the test supervisor at all times, including the instruction to work only on a particular Module of the test.
- Giving or receiving assistance during the test. Communication between candidates in any form is not permitted during the test administration.
- Discussing or sharing of test content during the test administration or after the test.
- Creating a disturbance or disruption to the test. Disruptive behaviour in any form will not be tolerated; the chief supervisor has sole discretion in determining what constitutes disruptive behaviour.
- Being found with or attempting to use prohibited aids (e.g. notes, note paper, dictionary, calculator, mobile phone, smart glasses, smart watches or any device capable of audio or video recording etc).
- Talking aloud (unless it is to ask a test supervisor a question) during the test session.
- Failure to stop work and put your writing implement down immediately when instructed.
- Copying another candidate's work.
- Leaving the test room or test centre without permission.
- Using the test questions, their content or information about them for purposes other than your sitting of the test. This includes publishing the test questions or any of their content or information about them on the internet, any digital format or otherwise; and/or passing the test questions, any of their content or information about them to third parties.
- Giving false or misleading information.
- Infringement of copyright. Copyright infringement includes: performing those rights or authorising the performance of those rights which are granted at law exclusively to the copyright owner. These rights include the exclusive right to reproduce the copyright work in a material form and to communicate that work to the public.
- In any way breaching (as determined by ACER in its absolute discretion) any of the terms and conditions of your registration to participate in the test.
- Any negligent, unlawful or wilful act or omission by you which ACER, in its absolute discretion, renders you to be unfit to participate in the test, whether or

not you are registered to participate at the time of ACER's determination.

All acts of suspected misconduct by candidates will be reported by the test supervisors to ACER.

Consequences for misconduct include cancelling your registration and/or disqualification to sit the test in future, and the withholding of your test results.

It is also possible that the misconduct will be referred to one or more educational institutions.

CANDIDATES ARE PUT ON NOTICE that except as expressly provided at law, there is no right to challenge, appeal or seek review of any determination by ACER that misconduct has occurred or in relation to any consequences imposed by ACER for any misconduct.

Check-in

- Staff will do their best to move any queues that have spilled outside as quickly as possible.
- Have your Admission Ticket and photographic ID ready while you wait in the queue to help expedite check-in.
- Staff at the desks are obliged to check that you are you! They are required to look at your ID, and then carefully scrutinise your face. Don't be embarrassed - just give them a cheery smile.
- If there is an issue with anything, you will be directed to a senior supervisor away from the check-in tables to resolve it.

Exam Hall

- Exam halls, with their rows of desks and chairs, may seem a bit overwhelming. If you feel nervous, you won't be alone - so does everyone else! Take some deep, calming breaths, and concentrate on your eventual goal.

Supervisors

- Supervisors are there to help, so don't hesitate to ask if you have a query about anything.
- Their duties include managing the queues and registration desks, guiding people to seats, handing out, then collecting, test papers.
- After announcements and directions when you have started your test, the supervisors will occasionally pass by ready to assist if required.
- It can be a bit of a tedious job, so give them a smile when you leave...

After Test Day

Results

Your result notification is sent to the same email address you used to register for the test and to receive your test Admission Ticket.

Your email address is very important, so we recommend you register using an address that you use often and that is secure. If you use a Hotmail or Yahoo address please put the MSAP email address into your address book so your email provider will accept the email.

Results are available to candidates some weeks after the test. You should print out a copy of your results for your own records.

Universities will have electronic access to MSAP test results after the test sitting.

If you change your email address, please email the MSAP Office immediately, so that we can send your result notification email to the correct email address. Verification of your identity will be required in order to confirm the change.

Candidates receive results for all modules of the MSAP test attempted. MSAP results are reported as scale scores on a range usually between 50 and 150, with a mean score of 100. The MSAP scale scores reflect the differing abilities of the candidates and different degrees of difficulty of the test items.

Percentile ranks are provided to help make sense of the scaled scores, and indicate the percentage of candidates receiving scores below a certain score. For example, if a score of 117 has a percentile of 80, it means that a candidate who achieves a score of 117 has a higher

result than 80% of the candidate population (i.e. they are in the top 20% of the candidate population).

An Overall MSAP score is also reported. Results from Module 1 and the multiple choice modules are averaged.

Candidates who sit for Module 1 and Module 2 receive an MSAP Arts/Humanities Overall score.

Candidates who sit for Module 1 and Module 3 receive an MSAP Maths/Sciences Overall score.

Candidates who sit for Modules 1, 2 and 3 receive two separate Overall scores: an MSAP Arts/Humanities Overall score, and an MSAP Maths/Sciences Overall score.

Appeals

ACER will not enter into appeals against MSAP test results. Candidates are advised that MSAP test results are released only after careful calculation and extensive checking. Requests for remarking will not be considered.

Should you have any complaint about a particular question on the day of the test, you must alert the supervisor to your concern and submit a written note before you leave the test centre. Your complaint will be reviewed and you will be notified of the outcome. Similarly, any complaints relating to the testing venue or physical discomfort suffered should be reported to the supervisor on the day, or by email to the MSAP Office within seven days of the test administration.

It is not possible to give special consideration for impaired performance on the day of the test caused by unexpected or minor illness or misadventure.

Preparing for the MSAP test

This Information Booklet is designed to help you prepare for the Mature Students Admissions Pathway (MSAP) test. **Each institution determines which test modules you must sit, depending on the course(s) for which you're applying.**

MSAP Test Modules

- **Module 1:** Written English (two short essays, 1 hour)
- **Module 2:** Reasoning in the Humanities and Social Sciences (multiple-choice, 1 hour)
- **Module 3:** Reasoning in the Sciences, Mathematics and Social Sciences (multiple-choice, 1 hour)

The questions in this booklet are indicative of the types of questions encountered in the real test.

A full Practice Test is available for purchase from the MSAP website under the 'Prepare' section.

MSAP is an aptitude test so there is no specific subject matter to learn, nor do the questions fall into patterns that can be learned as drills.

However, there is value in becoming familiar with the style of questions you will encounter in the test, and there is also value in rehearsing some strategies to enhance your time management.

Module 1 - Written English

The Test Developers have written some valuable general advice about how to approach the Written English tasks. A set of sample writing prompts is also provided for you to attempt.

Time management is an important part of doing well in the test, so practising producing two coherent pieces of writing within 1 hour is important. Most MSAP candidates have probably not written 'essays' in recent years, but other writing you have been doing (blogs, letters, reports at work, etc.) will stand you in good stead.

Complete at least one practice test in an uninterrupted hour; then reflect on what you have written in light of the advice and criteria provided in this booklet.

Module 2 – Reasoning in the Humanities and Social Sciences (multiple-choice); and

Module 3 – Reasoning in the Sciences, Mathematics and Social Sciences (multiple-choice)

The following comments apply generally to the multiple-choice modules of the test.

Time management strategies

Each multiple-choice module of the test takes one hour.

Aim to **finish working a few minutes ahead** of the allocated time to review what you've done.

Break your time into blocks to monitor your progress. Aim to finish the 35 questions in Module 2 (or 3) within 55 minutes (20 questions in the first 30 minutes, 15 questions in the next 25 minutes). This will give you five minutes spare at the end to revisit and check your answers.

It is very important to **finish the test and record an answer for every question**. Rushing to just get something down as the Supervisor approaches the microphone to say, "Pencils down," gives you a small chance of guessing something right, but it is much better to actually have the time to coolly work out the correct answer properly.

Sitting in an examination hall completing a timed test is an unfamiliar experience for most MSAP candidates. Therefore, practising reading and thinking against the time pressure of a full test is a good idea.

A method many people use is to review the free sample questions in this booklet, checking the answers as they go, becoming familiar with the style of questions, then use the Practice Test (available for purchase on the MSAP website) as a **timed practice test**. This involves putting aside a block of uninterrupted time. Turn the tv and phone off, send other household members out, sit in an upright chair at the table, have a clock as a timer, and do the test.

- Fill in the Answer Sheet demographic information for practice. You will be given time on the test day to fill this in before the test begins.
- Give yourself 1 minute to check the test (not the answers at the back!)
- Complete Module 2 or 3 (35 questions) in one hour, using the Answer Sheet.

This may not be a perfect experience for you, but is good preparation for test day.

TIME

Build in Reviewing Time

Blocks of Time during the test

Pace time to finish the test

Timed practice test



Annotated Answers

Managing the timing is one thing, but actually working out the correct answers is another.

The Practice Test has the answers listed at the back, but there is also a section of annotated answers. Test Developers have written examples of how to work out the correct answers, and the reasoning behind them.

Sometimes there's more than one way to arrive at the answer, but only one method is described for each question in the Practice Test booklet. The writers have usually tried to explain how the correct answer has addressed all parts of the question, and why the other options are incorrect.

MODULE I – WRITTEN ENGLISH

Advice to Candidates

The purpose of MSAP Written English (Module I) is to assess your ability to communicate effectively in writing. The following three aspects of your writing are taken into account in making an overall judgement:

- Thought and content
- Structure and organisation
- Expression, style and mechanics.

These different aspects are not considered separately. Markers read a script for its overall, holistic impression.

The tasks

You are to respond to a *Task A* theme that offers a set of four comments, and a *Task B* theme that has a set of four comments. The Tasks are only slightly different in focus, and do not require different kinds of responses.

Make sure you actually respond to and deal with your chosen topic.

Themes are selected to:

- be broad and generally accessible to candidates;
- not offer advantage to particular candidates;
- give room for candidates to respond in different ways or develop a response in different directions;
- not be provocative or sensational; and
- be likely to hold some interest for candidates.

Themes will be bland rather than provocative. The challenge for a candidate is to find something to say that is **not** bland and obvious in response, and that they feel is worth saying.

The set of comments offer different perspectives on a theme. You do not have to agree with any of the comments. *It may be a good strategy to challenge and argue against a comment if you think it unreasonable.*

You may discuss a comment in an impersonal way, or you may deal with it in quite personal terms. You need not pretend to have knowledge of an issue and a breadth of vision and experience you do not have. You can deal with an issue from a quite personal point of view. Even so, some of the best candidates distinguish themselves for their breadth of vision.

You may make a formal argument, or you may analyse and reflect on the nature of a theme without drawing a definite conclusion. You could present an anecdote or personal experience. You might even tell a fictional story. Whatever you do, it will be judged in terms of your ability to present a definite and sophisticated point of view.

The essay form

What you are writing might be loosely called 'an essay'; that is an attempt to think about an issue. The markers do **not** expect that such an essay should have a strict form and have a definite structure. Some people learn the 3 or 5 paragraph essay form. This model has an introduction, 3 or 5 main supporting points in separate paragraphs, and a conclusion. Such a model can give a structure to what you say, but it can seem rather rigid and formulaic ('In the essay I am going to ... In this essay I have ...'). The crucial issue is whether the ideas you present are organised and build on each other. It is important to start at the beginning and to build towards a conclusion. There is no reason why the conclusion shouldn't only become clear during or even at the end of the piece, for instance. There is no reason why the conclusion should be stated in the introduction and then repeated at the end.

Writing in test conditions

As the test is impromptu, first-draft writing, markers do not expect it to be flawless. Some candidates can begin writing without knowing how they will end, but for most candidates it is best to have some kind of plan. The plan may be no more than a couple of words, but it will help most candidates to work out in advance where they want to go and how they want to get there. The plan, as such, is not considered by the markers. Planning should focus on what your writing is going to add up to, and how you are going to get to that point.

Candidates sometimes misinterpret the Written English test as primarily an exercise in correct use of English. Using English correctly is an advantage in this writing test as it eases communication with the reader, and mistakes do not distract from what you are saying. Don't be unduly concerned about incorrect expression or spelling. Focus on communicating effectively with the reader. You are better off trying to express yourself freely than worrying too much about avoiding mistakes in expression and spelling.

The use of time

There is 5 minutes reading and thinking time for Written English, and two pieces to write in 30 minutes each. The two pieces are marked separately, and it is important to use the hour of writing time effectively. It is a very bad idea to use too much time on one task then not be able to do justice to the other. A good performance on one task will not make up for a poor performance on the other.

It is good to give a piece of writing an organised shape in the time available, but getting the whole thing complete is not a crucial issue. Give your piece of writing a title that will orient the reader to the direction you are going.

A selective focus rather than vague and general

It is important to try to find something definite that you think is worth saying. Don't try to say everything you can think of. Try to be selective and focused. It is better to say one thing well than to try to cover everything you can think of in a superficial way. It is better to focus on something definite and distinctive, and it may be better to avoid the obvious points that everyone will make. Hundreds of other candidates are writing on the same theme as you, and you want to stand out.

On the other hand, don't try to stand out by being extravagant or outrageous. You need to be balanced, reasonable and thoughtful. Try as best you can to be frank about what you think and feel, but you can't say anything you like. The reader is going to make a judgement about the soundness, reasonableness and maturity of what you say, and grade your script accordingly. Don't try to be merely provocative. You must write to show that you are aware of community standards, even if you don't agree with them. Markers will try to read your writing with pluralistic tolerance, and they won't be basing their judgement on whether they agree with you or not about the theme. They will be judging your writing on the sophistication and reasonableness of the support and justification you offer for your views.

What the markers say ...

- Back up your opinions with argument, evidence and examples (e.g. use personal anecdote and bed it into a wider discussion).
- Be prepared to argue the opposite side to the topic. You may be able to display your thinking processes by thinking of critical arguments and counter examples.
- Explore ideas in some depth and complexity.
- Don't spend a lot of time defining words – assume the marker knows the meaning of words such as 'heroes', 'charity', etc.
- Read comments carefully – be alert to specific terms. Address the whole comment you choose, not just part of it.
- Don't just parrot the comments in the title, or worse still, in the opening sentence.
- Don't spend the introduction explaining what you're going to do.

Sample Topics for MSAP Module I – Written English

Directions

You are required to produce **two pieces of writing** – one in response to a topic from Task A, and one in response to a topic from Task B.

- Task A is a more formal public affairs issue that invites argument.
- Task B is a less formal topic that invites more personal reflection.
- One hour is allocated for this test, with an additional five minutes reading time.
- Your responses to the topics are written directly onto the test paper. You should write your essays neatly in pen.
- Use a planning page to organise your thoughts before you commence writing.
- Write the number of the topic you are responding to at the top of each response. **NB: Do not try to address all of the other topics in your response.**
- Give each piece of writing a title that will help orient the reader to the approach you are taking.
- No extra paper is to be used. Only one test booklet is permitted per candidate.

The following themes and topics indicate the kind of stimulus material that will be offered in the real test.

Topics

Task A: Discussion of a current affairs theme – Respond to one (1) topic from Task A.

- 1 Our society is changing a great deal, but change is not always progress, and there are some ways in which our society is changing for the worse.
- 2 There has never been a time in human history when so many people have been able to live a safe and secure life, and we have science and technology to thank for such benefits.
- 3 Science and technology have brought many benefits, but they have also brought problems that may eventually negate those benefits.
- 4 Science has made great progress in understanding the physical world, but science has not made much progress in understanding the human world.

Task B: Personal point of view – Respond to one (1) topic from Task B.

- 5 Friendship is something that most people see as very important, but most friendships turn out to be superficial and fragile.
- 6 Romances come and go, but it is friendship that remains.
- 7 It is important that we learn to be confident within ourselves rather than dependent on the good opinion of others.
- 8 You have to work at a friendship, because without tolerance and respect, even the best friendships soon disappear.

MSAP Module 2 – Reasoning in the Humanities and Social Sciences Sample multiple-choice questions

UNIT 1

Question 1

- 1 Which two of statements (i) – (iv) below are most similar to each other in the attitude to equality presented?
- (i) Although people possess unequal powers, they nonetheless deserve equal rights.
 - (ii) People are made by nature unequal. It is vain, therefore, to treat them as if they were equal.
 - (iii) Kneeling ne'er spoil'd silk stocking; quit thy state;
All equal are within the church's gate.
 - (iv) The wealth of a nation consists more than anything else in the number of superior people it harbours.
- A statements (i) and (iii)
 - B statements (ii) and (iii)
 - C statements (i) and (iv)
 - D statements (iii) and (iv)

UNIT 2

Grass

Pile the bodies high at Austerlitz and Waterloo

Shovel them under and let me work —

I am the grass; I cover all.

And pile them high at Gettysburg

And pile them high at Ypres and Verdun

Shovel them under and let me work.

Two years, ten years, and passengers ask the conductor:

What place is this?

Where are we now?

I am the grass.

Let me work.

Carl Sandburg

Note: The place names mentioned in the poem were sites of battles involving a great loss of life.

Question 2

- 2 Which one of the following best describes the tone of the poem?
- A sympathetic, with a note of nostalgia
 - B bitter, with a note of derision
 - C compassionate, yet irritated
 - D contemptuous, yet humble

UNIT 3

Questions 3 – 6

The following passage describes the experiences of a man who has undergone surgery that has given him vision after a lifetime of blindness.

One man when shown an orange a week after beginning to see, said that it was gold. When asked, 'What shape is it?' he said, 'Let me touch it and I will tell you!' After doing so, he said that it was an orange. Then he looked long at it and said, 'Yes, I can see that it is round.' Shown next a blue square, he said it was blue and round. A triangle he also described as round. When the angles were pointed out to him he said, 'Ah. Yes, I understand now, one can see how they feel.' For many weeks and months after beginning to see, the person can only with great difficulty distinguish between the simplest shapes, such as a triangle and a square. If you ask him how he does it, he may say, 'Of course if I look carefully I see that there are three sharp turns at the edge of one patch of light, and four on the other.' But he may add peevishly, 'What on earth do you mean by saying that it would be useful to know this? The difference is only very slight and it takes me a long time to work it out. I can do much better with my fingers.' And if you show him the two shapes the next day he will be quite unable to say which is a triangle and a square.

- 3 One week after beginning to see, the man
- A related shape directly to visual images.
 - B formed visual impressions of shape indirectly.
 - C spontaneously reduced his dependence on his sense of touch.
 - D was developing a visual appreciation of shape through association with colour.
- 4 The man's mistake about the square (lines 3 and 4) suggests that
- A his eyesight was still impaired.
 - B he could not make full use of visual clues.
 - C the idea of shape was meaningless for him.
 - D colour makes shape perception more difficult.
- 5 The passage suggests that the man refers to the shapes as 'one patch of light' (line 8) because
- A he does not know the names of shapes.
 - B he does not associate visual images with shapes.
 - C he wants to be precise in order to make his reasoning clear.
 - D he wants to choose wording which will convey the difficulty of his task.
- 6 The passage presents shape perception as generally dependent on
- A experience.
 - B keen eyesight.
 - C inherited skills.
 - D colour perception.

UNIT 4

Questions 7 – 11

This unit is based on two extracts from a nineteenth-century novel. Lydgate is a young doctor who has recently come to the town of Middlemarch. Rosamond Vincy is the daughter of the mayor. The passage describes Lydgate's and Rosamond Vincy's early impressions of each other.

As he walked away from Mr Vincy's, Lydgate thought of Rosamond and her music only in the second place; and though, when her turn came, he dwelt on the image of her for the rest of his walk, he felt no agitation, and had no sense that any new current had set into his life. He could not marry yet; he wished not to marry for several years; and therefore he was not ready to entertain the notion of being in love with a girl whom he happened to admire. He did admire Rosamond exceedingly; but that madness which had once beset him about Laure was not, he thought, likely to recur in relation to any other woman. Certainly, if falling in love had been at all in question, it would have been quite safe with a creature like this Miss Vincy, who had just the kind of intelligence one would desire in a woman — polished, refined, docile, lending itself to finish in all the delicacies of life, and enshrined in a body which expressed this with a force of demonstration that excluded the need for other evidence. Lydgate felt sure that if ever he married, his wife would have that feminine radiance, that distinctive womanhood which must be classed with flowers and music, that sort of beauty which by its very nature was virtuous, being moulded only for pure and delicate joys. 5 10

But since he did not mean to marry for the next five years — his more pressing business was to look in Louis' new book on Fever, which he was specially interested in, because he had known Louis in Paris, and had followed many anatomical demonstrations in order to ascertain the specific differences of typhus and typhoid. 15

He was an ardent fellow, but at present his ardour was absorbed in love of his work and in the ambition of making his life recognised as a factor in the better life of mankind — like other heroes of science who had nothing but an obscure country practice to begin with. 20

Poor Lydgate! or shall I say, Poor Rosamond! Each lived in a world of which the other knew nothing. It had not occurred to Lydgate that he had been a subject of eager meditation to Rosamond, who had neither any reason for throwing her marriage into distant perspective, nor any pathological studies to divert her mind from that ruminating habit, that inward repetition of looks, words, and phrases, which makes a large part of the lives of most girls. He had not meant to look at her or speak to her with more than the inevitable amount of admiration and compliment which a man must give to a beautiful girl. But Rosamond had registered every look and word, and estimated them as the opening incidents of a preconceived romance — incidents which gather value from the foreseen development and climax. In Rosamond's romance it was not necessary to imagine much about the inward life of the hero, or of his serious business in the world; of course, he had a profession and was clever, as well as sufficiently handsome; but the piquant fact about Lydgate was his good birth, which distinguished him from all Middlemarch admirers, and presented marriage as a prospect of rising in rank and getting a little nearer to that celestial condition on earth in which she would have nothing to do with vulgar people, and perhaps at last associate with relatives quite equal to the county people who looked down on the Middlemarchers. 25 30 35

- 7 What interests Rosamond most about Lydgate?
- A his money
 - B his profession
 - C his social status
 - D his personal attractiveness
- 8 Lydgate imagines that his future wife will be
- A passionate and desirable.
 - B able to share his interests.
 - C intelligent and challenging.
 - D admirable but undemanding.
- 9 In what sense does Lydgate feel 'safe' (line 8) about Miss Vincy?
- A He is sure he will never fall in love again.
 - B He feels that women like her are not attractive to him.
 - C He feels confident that she would not make him lose control over his feelings.
 - D He thinks that he has at last found someone who will provide him with love and security.
- 10 Which one of the following best describes Lydgate's motivation in his work?
- A intellectual curiosity, ambition and altruism
 - B a fanatical obsession with fever research
 - C the need to establish himself financially
 - D a desire for status to impress Rosamond
- 11 Later in the novel Lydgate and Rosamond marry, and their marriage is a disaster. What emerges most strongly from the passage to foreshadow difficulties in the marriage?
- A The attraction between them is only physical.
 - B Neither appreciates the strengths of the other.
 - C Neither has given much thought to the future.
 - D Neither has any sense of the other's inward life.

MSAP Module 3 –
Reasoning in the Sciences, Mathematics and Social Sciences
Sample multiple-choice questions

UNIT 1

Questions 1 – 5

In some areas of the world, marine birds such as kelp gulls feed on mussels which have been deposited on the beaches. To break open the shells, the birds carry the mussels to heights and drop them onto hard surfaces, such as rocks or wet beach sand.

Experimental evidence indicates that the minimum drop height required to fracture a mussel shell depends on its size, and also on the nature of the surface onto which it is dropped. Moreover, the speed on impact with the ground can be related to the mussel's drop height and its shell length. The graphs in Figures 1 to 4 show the relationships between the size, impact speed, and drop height of mussels. The figures are based on the results of extensive mussel dropping experiments that attempted to simulate real conditions.

Assume that all mussels referred to in the following questions are described by these relationships.

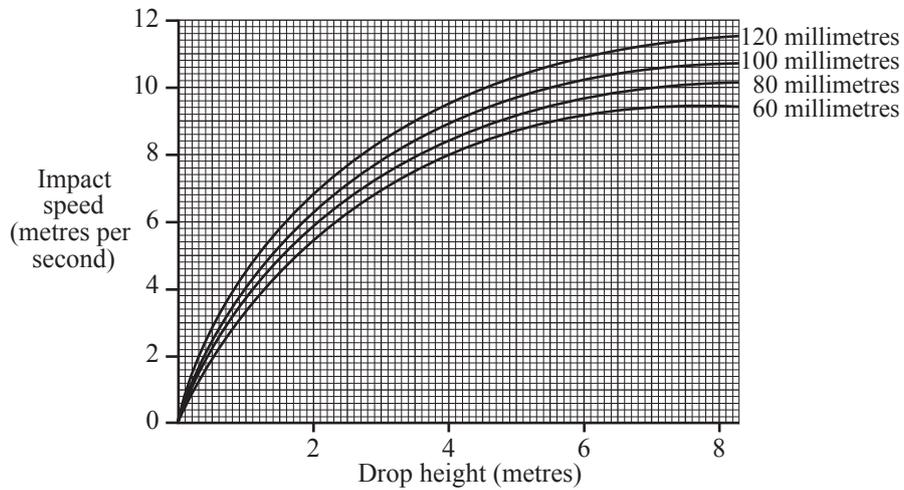


Figure 1

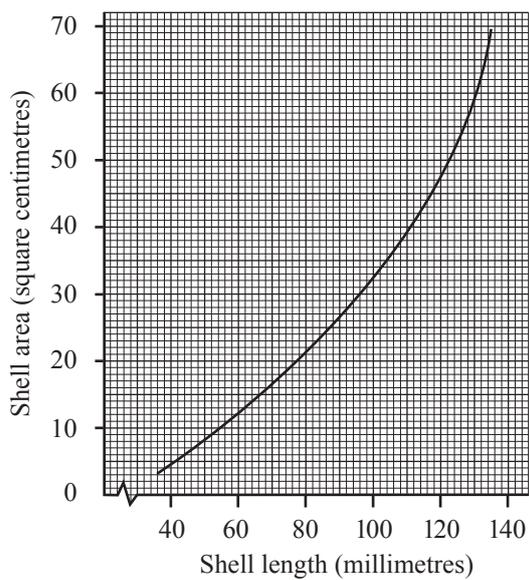


Figure 3

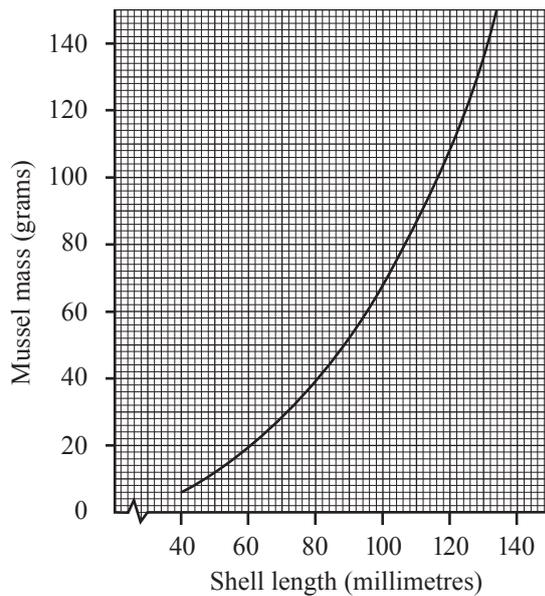


Figure 2

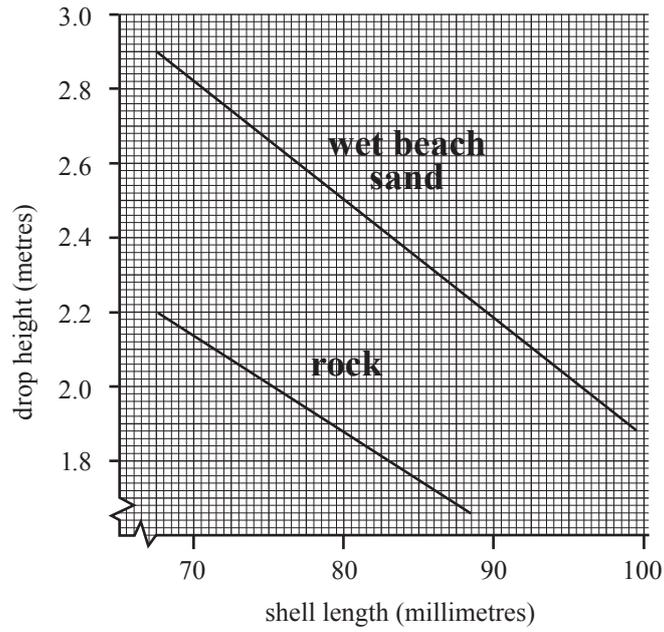


Figure 4

- 1 An 80 gram mussel has a shell area closest to
 - A 20 square centimetres.
 - B 24 square centimetres.
 - C 40 square centimetres.
 - D 45 square centimetres.

- 2 Which one of the following is the smallest drop height required to fracture three mussels with lengths 75 millimetres, 85 millimetres, and 100 millimetres, when all three are dropped onto wet beach sand?
 - A 1.90 metres
 - B 2.35 metres
 - C 2.67 metres
 - D 3.00 metres

- 3 Two mussels are dropped from a height of 2.5 metres onto wet beach sand. Mussel X has a mass of 30 grams and mussel Y has a mass of 60 grams.

According to the available evidence,

- A only mussel X will fracture.
 - B only mussel Y will fracture.
 - C both mussels will fracture.
 - D neither mussel will fracture.
- 4 For a group of mussels, all of which have a shell length of 80 millimetres, the difference between the drop heights required to fracture the mussels when they drop onto rock and wet beach sand is closest to
- A 0.6 metres.
 - B 1.0 metres.
 - C 1.9 metres.
 - D 2.5 metres.
- 5 Which of the following is closest to the lowest impact speed required to fracture a 30 gram mussel by impact with wet beach sand?
- A 5.5 metres per second
 - B 6.8 metres per second
 - C 8.4 metres per second
 - D 10 metres per second

UNIT 2

Questions 6 – 9

Attached to Runalong Fire Station there are seven firefighters (1, 2, 3, 4, 5, 6, 7). It is necessary to have three firefighters at the station each night in case of emergency, and the Firefighters' Union requires that each firefighter works the same number of nights.

Schedules I–IV were prepared for consideration.

	I	II	III	IV
Sunday	{1,2,4}	{1,2,4}	{1,2,4}	{1,2,4}
Monday	{2,3,5}	{2,3,5}	{2,3,5}	{2,3,5}
Tuesday	{3,4,6}	{3,4,6}	{3,4,6}	{3,4,6}
Wednesday	{4,5,7}	{4,5,7}	{1,2,4}	{4,5,7}
Thursday	{1,2,4}	{5,6,1}	{5,6,1}	{5,6,1}
Friday	{2,3,5}	{6,7,2}	{6,7,2}	{7,1,2}
Saturday	{3,4,6}	{7,1,3}	{7,1,3}	{6,1,3}

6 Which one of the schedules meets the requirements of the Firefighters' Union?

- | | |
|------|-------|
| A I | C III |
| B II | D IV |

Questions 10 – 12 refer to the following additional information:

A schedule can be thought of as a set of v objects (in this case, firefighters) that have to be arranged into b sets (in this case, one set for each day of the week) all of size k and such that each object occurs the same number of times (r) in the schedule and only once in any set.

For the firefighters' schedules, $v = 7$, $b = 7$, $k = 3$, and $r = 3$.

7 If $v = 3$, $b = 6$, $k = 1$, $r = 2$, which one of the following completes the schedule {1}, {2}, {3}, {1}, {2}, ...?

- | | |
|-------|--------------------------------|
| A {1} | C {3} |
| B {2} | D neither {1}, nor {2} nor {3} |

8 The schedule {1,2}, {2,3}, {x,y} is a schedule for which $v = 3$, $b = 3$, $k = 2$, $r = 2$, if

- | | |
|--------------------|--------------------|
| A $x = 1, y = 2$. | C $x = 2, y = 2$. |
| B $x = 1, y = 3$. | D $x = 2, y = 3$. |

9 The schedule {1,2,3} {4,5,6} {7,8,9} {1,4,7}
 {2,5,8} {3,6,9} {1,5,9} {2,6,7}
 {3,4,8} {1,6,8} {2,4,9} {x,y,z}

is a schedule for which $v = 9$, $b = 12$, $k = 3$, $r = 4$, if

- | | |
|---------------------------|---------------------------|
| A $x = 1, y = 2, z = 4$. | C $x = 2, y = 4, z = 6$. |
| B $x = 1, y = 3, z = 5$. | D $x = 3, y = 5, z = 7$. |

UNIT 3

Questions 10 – 12

When fighting bushfires, a major problem for firefighters is dealing with the heat. Heat enters, leaves or is produced in a firefighter's body by the following processes:

- I radiation — heat from the fire and the sun radiate to the firefighter's body
- II conduction/convection — body heat is carried away by the surrounding air
- III metabolism — heat is produced in the firefighter's body
- IV evaporation of sweat — heat is removed from the firefighter's body when sweat evaporates from skin and clothing

In a study of heat balance in firefighters, two groups of firefighters built a firebreak — a hard physical task. One group did so next to a fire. The other group did exactly the same work under the same conditions except that no fire was burning nearby. The table gives the average results for the firefighters in the two groups

Process	Amount of heat gained or lost per minute by the body	
	fire nearby	no fire nearby
Radiation	gain of 260 joule	gain of 51 joule
Conduction / convection	loss of 60 joule	loss of 80 joule
Metabolism	gain of 488 joule	gain of 561 joule
Evaporation of sweat	loss of 688 joule	?

- Assume that the figures given apply to any individual firefighter.
- Although some of the processes can transfer heat to or from a firefighter, this unit and the table refer to net gains or losses of heat by each process.

10 When building a firebreak, the body of a firefighter

- A loses heat by radiation and gains heat by conduction/convection.
- B loses heat by both radiation and by conduction/convection.
- C gains heat by radiation and loses heat by conduction/convection.
- D gains heat by both radiation and by conduction/convection.

- 11 The heat lost by evaporation of sweat from the body of a firefighter in one minute while building a firebreak without a fire nearby is
- A 532 joule.
 - B 590 joule.
 - C 612 joule.
 - D 688 joule.
- 12 Which one of the following increases when a firefighter moves from an area where there is no fire nearby to an area where there is a fire nearby?
- A the amount of heat produced per minute by metabolism
 - B the amount of heat lost per minute by conduction/convection
 - C the amount of heat lost per minute by the evaporation of sweat
 - D none of A or B or C

ANSWERS

Module 2 – Reasoning in the Humanities and Social Sciences			Module 3 – Reasoning in the Sciences, Mathematics and Social Sciences		
Unit 1 Statements	1	A	Unit 1 Mussels	1	C
				2	C
Unit 2 War poem	2	B		3	B
				4	A
Unit 3 Blindness	3	B		5	B
	4	B	Unit 2 Runalong Fire Station	6	B
	5	B		7	C
	6	A		8	B
Unit 4 Middlemarch	7	C		9	D
	8	D	Unit 3 Firefighters	10	C
	9	C		11	A
	10	A		12	C
	11	D			

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