Read this booklet carefully before sitting the test.

STAT P
Special Tertiary Admissions Test

Applicant Information Booklet
The Papua New Guinea University of Technology
The University of Goroka

More details about STAT P can be found on the internet at:
https://statpng.acer.org/
STAT is produced by the Australian Council for Educational Research (ACER). Every effort has been made to ensure the accuracy of information provided in this booklet. However, ACER reserves the right to alter or amend test details and/or test administration details outlined in this booklet.

ACKNOWLEDGMENTS

ACER thanks rights holders who have kindly granted permission to reproduce the material cited below. Every effort has been made to trace and acknowledge copyright. However, should any infringement have occurred, ACER tenders its apology and invites copyright owners to contact ACER at permissions@acer.edu.au.


Read this entire information booklet carefully.
About STAT

What is STAT?
The Australian Council for Educational Research (ACER) develops the Special Tertiary Admissions Test (STAT) to help universities admit students who are well suited to a broad range of academic programs.

STAT assesses a range of competencies considered important for successful tertiary study, evaluating skills such as critical thinking, and understanding and analysis of given information. It does not test your knowledge of curriculum or specific academic content.

STAT P

• 2 hour and 10 minute test
• 70 multiple-choice questions, half Verbal (Critical) Reasoning, half Quantitative Reasoning
• Presented in Units
• All the information required to answer questions is contained in each Unit.

Skills Tested

Verbal/Critical Reasoning
The focus is on interpretation and understanding of ideas in language. Questions may require you to:

• identify the main idea in a passage
• interpret specific words and phrases
• paraphrase what is stated
• infer suggestions and deduce meanings

Some Units test comprehension of demanding and complex language with emphasis on analysing and understanding the information provided. Other Units test understanding and processing of ideas presented with emphasis on manipulating information and solving problems.

Quantitative Reasoning
The aim is to test your comprehension and application of information presented in scientific and mathematical contexts.

Units may present information in numeric, symbolic, spatial or graphical form.

Questions do not require an in-depth knowledge of the material provided. The focus is on your ability to interpret and apply information, and to use the information provided for decision making and problem solving.

Communicating with Applicants
The main way that the STAT office communicates with applicants is via the messaging system located in the applicant’s ACER user account. Applicants should check this regularly to ensure that they do not miss important information.

Terms and Conditions of sitting STAT
Booking to sit STAT constitutes your acceptance of and an agreement to abide by the conditions in this booklet. These include the test administration and rules, reporting of scores, collection and use of personal information and the use of information for research. Test results may be used by approved authorities for purposes of research into the STAT program. Test data is treated with the utmost confidentiality.
Preparing for STAT P

The practice questions included in this Information Booklet are similar to questions in the real test.

Answer Sheet
You will record your answers on a special STAT P Answer Sheet (sample p. 6). This allows your answers to be scanned and scored by machine. On the Answer Sheet you will find a list of question numbers (Questions 1 to 70) and next to each question the letters A B C D with a small circle around each letter.

Mark your answer by completely filling in the circle containing your answer with pencil. If you choose option A as the answer to Question 14, record your answer like this:

14  A  B  C  D

It is important to mark your answers carefully.
If you decide to change an answer, erase your mark completely and fill in the circle containing your new answer.

When answering STAT P questions on your Answer Sheet:
• you must only use lead pencil
• mark your answer clearly
• use a good quality eraser
• do not make marks outside the designated areas.

STAT P questions may be quite difficult. They are designed to measure a wide range of intellectual ability.

Extra tips
• Your answers must be marked directly onto your Answer Sheet, not in your Test Booklet.
• Do rough work in your Test Booklet. Extra paper is not allowed.
• Attempt as many questions as possible for best chance of maximising your score. Record an answer for all questions.
• No marks are deducted for a wrong answer (there is no negative scoring).
• Do not mark more than one answer to a question.

Use the practice questions in this booklet to practise your exam technique. Practise recording your answers on the Answer Sheet. Try to attempt all questions before checking your answers. Other good preparation is to read widely and think critically about what you read.

Test taking strategy
• Don’t spend too much time on any one question.
• Read the background information for a unit before starting the questions.
• Read through all the answer options, even if you think the first one is correct, before marking your choice.
• See if there are any options you can discard immediately because they are obviously wrong.
• If you think you know the answer to a question, mark it, even if you are not certain. Go on to the next question and come back later if you have time.
Test Centre Procedures & Rules

Checklist for the Test Day
You must take these items to the test:
- Photo Identification (no photocopies)
- 2 Pencils and an eraser

Time at Test Centre
Expect to be at the test venue around 3 hrs (or longer). Time is needed to check-in all candidates, for pre-test procedures, instructions, distribution, collection and checking of test materials, and actual test time.

You must remain in the test room for the full 2-hours and 10 minutes assigned for the exam. No applicants will be allowed to leave early.

Admission to the Test
You will not be admitted to the test unless you have made a booking, and a payment.
You will not be admitted to the test unless you are listed on the Attendance Roll and have brought your photo ID.

Identification
You must bring one of the following photo identification documents (ID) with you to the test.

The only types of accepted ID are:
Issued within the last 5 years:
- Secondary student photo ID card
- Tertiary student photo ID card
- Workplace photo ID card
- other official photo ID card (such as Church ID or proof of age card)
- Drivers licence
- Passport
- National Identity Document (PNG NID)
The name on your ID must match the name you entered on your test booking.

Your identification document MUST contain:
1. your full name
2. a recent embedded photo
3. your signature or a validity date or date of issue

Applicants who do not bring an identification document will not be admitted to the test.

Prohibited items
The following items are not allowed:
- calculator or dictionary
- mobile phone or other communication devices
- audio or recording devices, or earphones
- books, papers, bags
- weapons, or objects that could harm others

Water bottles are permitted. No eating or smoking during the test sessions, or in the test room.

Test Day
If you are unwell or if conditions in the test room impact your ability to perform in the test, please tell the Supervisor as soon as possible. You will not be allowed extra time if you leave the room due to illness.
**Test Rules and Misconduct**

STAT P test is a high-stakes test; results have the potential to make a major impact on the future study plans of applicants.

ACER has established security procedures and rules, which will be strictly enforced at all times.

It is the responsibility of applicants to ensure that they understand that the following behaviours are considered to be breaches of test rules:

- breach of any of the security arrangements for the test
- attempting to sit the test more than once in a test year
- failure to follow a test Supervisor’s instructions at all times
- giving false or misleading information during the test booking process
- attempting to gain access to test questions before the test
- using unauthorised aids (including notes, note paper, calculator, mobile phone)
- attempting to take the test on behalf of another person
- allowing another person to attempt to take the test on your behalf
- giving or receiving assistance to someone else during the test
- talking aloud (unless it is to ask a test supervisor a question) during the test session
- failure to stop work and put your pencil down immediately when instructed
- copying another applicant’s work
- leaving the test room without permission
- creating a disturbance inside or outside the test venue
- attempting to remove a test book or part thereof, an answer sheet, or any notes, from the test room
- attempting to copy or memorise all or part of the test
- attempting to take a recording/image of the test materials
- discussing or sharing of test content during or after the test

- 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
- 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

All acts of suspected rule breaches by applicants will be reported by the test supervisors to ACER.

The penalty for any of the above breaches will be the cancellation of the applicant’s test and a ban from registering to sit the STAT P test on a future occasion.

APPLICANTS 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. It is possible that the misconduct will be referred to educational institutions, government or another third party to whom such misconduct might be of interest.
Instructions

1 This test has 70 questions.

2 You will gain the best possible score if you:
   • work carefully through the questions in order.
   • don’t waste too much time on any one question; if necessary, go on to the next question and come back to the difficult ones later.
   • mark an answer if you think you know it – even if you are not certain you are correct. Marks are not deducted for wrong answers.
   • correctly mark each answer you chose on your Answer Sheet.

3 Each question has four alternative answer options, represented by the letters A B C D. You must choose one answer from these alternatives.

Example:
The total number of questions in this test is
Find the letter matching your answer choice.
The correct answer is 70. As the letter A represents the answer, you will shade circle ‘A’ with your pencil on your Answer Sheet.

4 If you want to change your answer, rub it out completely. Only one letter should be marked for each question for the answer to be counted in your score.

5 At the end of the test this STAT P Test Booklet must be handed in. It is the property of ACER.

6 Look through the Test Booklet to check that no pages are blank or misprinted.

7 Do NOT start writing on your Answer Sheet until the supervisor tells you to begin.
Filled-in Answer Sheet (example)
UNIT 2

Question 2
In the grid below, different letters represent different whole numbers less than 20. The numbers to the right and below the grid are row and column totals.

For example, $Q + L + Z + Z = 46$.

<table>
<thead>
<tr>
<th></th>
<th>Q</th>
<th>L</th>
<th>Z</th>
<th>Z</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>K</td>
<td>K</td>
<td>K</td>
<td>K</td>
<td>28</td>
</tr>
<tr>
<td>K</td>
<td>K</td>
<td>Q</td>
<td>Q</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>K</td>
<td>Z</td>
<td>L</td>
<td>Q</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

                                      30  38  X  Y

2 The value of Q is

A 7
B 9
C 11
D 13
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 men possess unequal powers, they nonetheless deserve equal rights.
(ii) Men 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 men it harbours.

A statements (i) and (iii)  
B statements (ii) and (iii)  
C statements (i) and (iv)  
D statements (iii) and (iv)
UNIT 3

Questions 3 – 6

The following passage describes the experiences of a man who had surgery that gave 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, ‘What 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 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. 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. eyesight.
   C. inherited skills.
   D. colour perception.
UNIT 4

Questions 7 – 9

When fighting forest fires, 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:

1. Radiation — heat from the fire and the sun radiate to the firefighter’s body
2. Conduction/convection — body heat is carried away by the surrounding air
3. Metabolism — heat is produced in the firefighter’s body
4. 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 built their firebreak 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 below gives the average results for the firefighters in the two groups.

<table>
<thead>
<tr>
<th>Process</th>
<th>Amount of heat gained or lost per minute by the body</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>fire nearby</td>
</tr>
<tr>
<td>Radiation</td>
<td>gain of 260 joule</td>
</tr>
<tr>
<td>Conduction / convection</td>
<td>loss of 60 joule</td>
</tr>
<tr>
<td>Metabolism</td>
<td>gain of 488 joule</td>
</tr>
<tr>
<td>Evaporation of sweat</td>
<td>loss of 688 joule</td>
</tr>
</tbody>
</table>

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

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.

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
Normal Year:

- The trade winds blow from east to west, pulling warm water behind.
- The jet streams deliver rain to southern Mexico and the Pacific Northwest.
- A pool of warm water sits off Indonesia, bringing rains from below, supporting warm water wells off Peru region.
- The warm water wells up and supports the Pacific food chain.
- The storms at high latitudes produce extreme weather conditions.

El Niño Year:

- The trade winds slacken, for largely mysterious reasons.
- The jet streams shift north, and so do the rains.
- The warm water sloshes east, taking upwelling processes; fish stocks fall.
- The warm water prevails stationary over the region.
- First storms appear off Peru, bringing rains.
- A warm water pool forms off Indonesia, bringing rains from below, supporting warm water wells off Peru region.
- The storms at high latitudes produce extreme weather conditions.
UNIT 5

Questions 10 – 14

This unit is based on the diagram on the opposite page.

10 The El Niño phenomenon is first indicated by variations in
   A water currents.
   B storm clouds.
   C jet streams.
   D winds.

11 The cross-section diagrams to the right of the main map draw attention to the effects of
   A cold water in creating rough seas and rain-bearing storm clouds.
   B unnatural increases in water volume on overall sea levels.
   C global warming on the average temperature of the ocean.
   D warm water fluctuations on weather and the food chain.

12 In an El Niño year, absence of warm water is likely to cause Indonesia to experience
   A storms.
   B reduced rainfall.
   C cold wind blasts.
   D stronger jet streams.

13 One effect of El Niño in 1982 was to destroy the anchovy fishing industry in Peru. According to the
   information given in the diagrams and text, the most likely reason for this was that
   A stronger trade winds off the coast of Peru made fishing hazardous.
   B the fish were driven away by cold water welling up from below.
   C jet streams redirected to the south caused havoc.
   D the fish were deprived of food.

14 In an El Niño year floods are caused in desert regions of South America because
   A the southerly jet stream from Indonesia has caused more wetness and cold.
   B deep cold water has risen abnormally to flood proportions.
   C large areas of warm water have settled along the coast.
   D overall sea levels have dropped due to trade winds.
UNIT 7

Question 19

The poem in this unit is on the subject of war.

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 driver:
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.

19 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
Questions 15 – 18

At 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.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>{1,2,4}</td>
<td>{1,2,4}</td>
<td>{1,2,4}</td>
<td>{1,2,4}</td>
</tr>
<tr>
<td>Monday</td>
<td>{2,3,5}</td>
<td>{2,3,5}</td>
<td>{2,3,5}</td>
<td>{2,3,5}</td>
</tr>
<tr>
<td>Tuesday</td>
<td>{3,4,6}</td>
<td>{3,4,6}</td>
<td>{3,4,6}</td>
<td>{3,4,6}</td>
</tr>
<tr>
<td>Wednesday</td>
<td>{4,5,7}</td>
<td>{4,5,7}</td>
<td>{1,2,4}</td>
<td>{4,5,7}</td>
</tr>
<tr>
<td>Thursday</td>
<td>{1,2,4}</td>
<td>{5,6,1}</td>
<td>{5,6,1}</td>
<td>{5,6,1}</td>
</tr>
<tr>
<td>Friday</td>
<td>{2,3,5}</td>
<td>{6,7,2}</td>
<td>{6,7,2}</td>
<td>{7,1,2}</td>
</tr>
<tr>
<td>Saturday</td>
<td>{3,4,6}</td>
<td>{7,1,3}</td>
<td>{7,1,3}</td>
<td>{6,1,3}</td>
</tr>
</tbody>
</table>

15 Which one of the schedules meets the requirements of the Firefighters’ Union?
   A  I  C  III
   B  II  D  IV

Questions 16 – 18 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 \( r = 3. \)

16 If \( v = 3, b = 6, k = 1, r = 2, \) which one of the following completes the schedule \{1\}, \{2\}, \{3\}, \{1\}, \{2\}, \ldots \?
   A  \{1\}  C  \{3\}
   B  \{2\}  D  neither A, nor B, nor C

17 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  \( x = 2, y = 3. \)

18 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 8

Questions 20 – 24

In some areas of the world, marine birds such as gulls feed on mussels washed up 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. 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 what the birds do.

Assume that all mussels referred to in the following questions are described by these relationships.
20  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.

21  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

22  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.
Answers

Unit 1: Statements (Verbal Reasoning)
1 A

Unit 2: Grid (Quantitative Reasoning)
2 B

Unit 3: Lifetime of blindness (Verbal Reasoning)
3 B
4 B
5 B
6 A

Unit 4: Firefighters (Quantitative Reasoning)
7 C
8 A
9 C

Unit 5: El Niño (Verbal Reasoning)
10 D
11 D
12 B
13 D
14 C

Unit 6: Runalong Fire Station (Quantitative Reasoning)
15 B
16 C
17 B
18 D

Unit 7: War poem (Verbal Reasoning)
19 B

Unit 8: Mussels (Quantitative Reasoning)
20 C
21 C
22 B
23 A
24 B