## I. Listening

## Maximum score for Listening section $=20$ points

Time for Listening section - $\mathbf{3 0}$ minutes
Task 1. You will hear three different extracts. For questions 1-6, choose the answer (A, B or C) which fits best according to what you hear. There are two questions for each extract.

Extract One: You hear an art gallery guide talking about the paintings of Marianne North, a nineteenth-century traveler and botanical artist.
1 The guide suggests that Marianne North's work is important
A as historical documentation.
$B$ for its range of subject matter.
C because of technical expertise.
2 The guide refers to a change in people's attitude towards
A the role of education.
$B$ the value of artistic skills.
C the relationships between men and women.
Extract Two: You hear part of an interview with Professor Renton, who has recently been appointed director of a science museum.
3 What does Professor Renton suggest that he has inherited?
A his enquiring mind
B his problem-solving skills
C his talent for gathering facts
4 Professor Renton says that one of the museum's aims should be to
A reassure visitors about current issues.
$B$ enable visitors to draw conclusions.
C interpret evidence for visitors.
Extract Three: You hear an economist talking about technological developments.
5 What is his attitude towards the Internet?
A Its practical drawbacks have been overemphasized.
B Its effects on business have generally been exaggerated.
C Its social importance has been overestimated by entrepreneurs.
6 What does he say about washing machines?
A They led to an expansion of the labour market.
B They were initially only available to wealthier people.
C They were an early sign of changing attitudes to women.
Task 2
You will hear part of a lecture about ancient Egyptian ships and an attempt to reconstruct one. For questions 7-15, complete the sentences with a word or short phrase.
Archaeologists believe that the site called Mersa Gawasis was once a (7) ... on the Red Sea.
To gain the support from the (8) ... , the Pharaoh Hatshepsut imported incense by ship.
Ancient Egyptian shipbuilders differed from modern ones in that they did not make a (9) ... for the ship they were building.
The speaker compares building an ancient Egyptian ship to doing a $\mathbf{1 0} \ldots$
The Egyptian river ship used (11) ... to help attach planks together, unlike the seagoing ships.
Wood from trees grown in (12) ... was used in the reconstruction of the ship.
The modern shipbuilders were provided with a (13) ... by the archaeologists.
The modern shipbuilders used (14) ... to make the ship watertight.
The modern team used a (15) ... to get the ship to the sea.
Task 3. You will hear two costume design students, Angela and Mike, discussing the role of costumes in films. For questions 16-20, choose the answer (A, B, C or D) which fits best according to what you hear.

16 At the beginning of their course, they were asked to watch a film with the sound turned off to see if they could
A still follow the details of the plot.
B spot small inconsistencies in costumes.
C identify the main themes of the film.
D predict the development of characters' relationships.
17 Which aspect of the course particularly interests Mike?
A the importance of film as social history
B the way film influences fashion
C costume-making techniques
D the sourcing of fashion accessories
18 What interpretation of a female character wearing layers of clothes do they find implausible?
A that she is shy and lacks confidence
B that she has a complex personality
C that she wants to hide her past
D that she is still searching for her true identity
19 What compromise do they agree costume designers have to make?
A They have to sacrifice authenticity for dramatic effect.
B They have to make costumes that are comfortable for actors to wear.
C They substitute poorer-quality fabrics because of budget constraints.
D They carry out limited research because of tight deadlines.
20 What is Angela going to do her next project on?
A how to make costumes for films with large numbers of minor characters
B how to alter costumes to reflect the development of the main character
C how the significance of items of clothing has changed over time
D how male film-makers have misunderstood the role of women
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1 point for each correct answer

## II. Reading

Maximum score for Reading section $=\mathbf{2 0}$ points
Time for Reading section $=\mathbf{4 0}$ minutes
Task 1. For questions 1-9 answer by choosing from the reviews of books for teenagers A-G. Some statements relate to two paragraphs. Answers may be given in any order. Eg.: 0-A

According to the reviews, which book or books

| features a character who cannot be trusted? | $0 \ldots$ |  |
| :--- | :--- | :--- |
| feature a major change in lifestyle? | $1 \ldots$ |  |
| highlights a potentially violent situation? | $2 \ldots$ |  |
| have characters searching for evidence? | $3 \ldots$ |  |
| shows the pleasure people derive from animals? | $4 \ldots$ |  |
| exploit a variety of sources to tell the story? | $5 \ldots$ |  |
| contain elements that should make people smile? | $6 \ldots$ |  |
| features a child who has a difficult relationship with a parent? | $7 \ldots$ |  |
| is described as equally suited to both sexes? | $8 \ldots$ |  |
| is about a girl who takes up an unusual hobby? | $9 \ldots$ |  |

(A) "Hide and Seek" by Yvonne Coppard

Emma and her friends are pursuing a holiday game surveillance of a suspicious bookshop - when she realises that one of its rare customers is her Uncle Jim. He callously draws her into a web of deceit and crime, manipulating her affection for him and attempting to alienate her from her friends, whose characters are persuasively drawn by Coppard. When Emma finds her life in danger, things take a dark and compelling turn her confinement in the cellar of a derelict house is stunningly handled. This book reveals the minutiae of family

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life, the bonds of childhood friendship and warns that adults aren't always the protectors they ought to be. A vital and convincing read.
(B) "Backtrack" by Peter Hunt

Two teenagers, 'peasant' Jack and Rill, a hoarder at a posh girls' school, join forces on realising that relatives of both were involved in an apparently inexplicable 1915 train accident, in which eight people died. Varied viewpoints and documents maps, first-hand accounts, court records, railway histories - throw an ever-changing light on the incident, so that the reader works as hard as the two protagonists to understand what happened and why. A clever, complex novel which rewards close attention.
(C) "Pigeon Summer" by Ann Turnbull

Mary Dyer doesn't really fit into her family or male-dominated culture; for one thing, she, a girl, loves her father's racing pigeons and when he must go away to find work, Mary knows enough to carry on managing the loft and winning prizes, despite increasing conflict with her harassed mother. Set believably in 1930, this readable tale has a sound basic message that 'There are different kinds of cleverness', which can't be had. Thoughtful readers should find satisfaction here.
(D) "Yaxley's Cat" by Robert Westall

Unusually, Robert Westall uses the viewpoint of a mature woman for this chilling story of rural prejudice and persecution. Rose, to escape from her materialistic life and her smug husband, rents Sepp Yaxley's cottage with her two children. A ferocious cat, and bizarre items found in cupboards, reveal the answer to why Yaxley disappeared; hut the, newcomers' presence arouses local hostility to the point where their own lives are at risk. By the end, the threatening violence is controlled, but Rose feels just as dismayed by the methodical ruthlessness of her teenage son. Utterly gripping.
(E) "Someone's Mother is Missing" by Harry Mazer

At the poor, shambling, noisy end of the family there's Sam - fat, overtalkative and awed by his supercool and sophisticated cousin, Lisa, from the apparently rich end of the clan. When Lisa's privileged world crumbles, it's Sam who helps her to find some balance, out of which both gain a better sense of reality and the value of family. The pace is slightly slow in parts hut there's a gentle humour and the developing closeness of the two teenagers is convincingly handled. It could be interesting to both boys and girls, which is a hit of a rarity.
(F) "Stanley's Aquarium" by Barry Faville

Barry Faville writes with assurance and humour, vividly evoking his New Zealand setting and creating an intelligent and likeable first person narrator. Robbie takes a job gardening for elderly Stanley, finding him at first fascinating and later repellent; when she finds out what he keeps in his aquarium and what he plans to do with them, the book takes a 'thrillerish' twist without losing its sharp insight into character and relationships. Unusual and compelling.
(G) "Dodger" by Libby Gleeson

A painful, sad story where the troubled personal relationships plus the stormy school life of Mick are told through a skilful blend of flashback, a teacher's letters to a friend, the hoy's own notes and sympathetic narrative. Coming to terms with the negative expectations of others and his own poor sense of self-worth is achieved through a role in a school play and by an impressively sensitive first-year teacher. Highly recommended, even though it's truly an agonising read, especially at the end.
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## Task 2.1. Read the passage about nanotechnology and choose the most suitable headings for paragraphs A - F from the list of headings. Eg.: 0 -A=vi

i) From theory to practice
ii) Recycling with nanotechnology
iii) Difficulties facing the development of nanotechnology
iv) Advantages and dangers of nanotechnology
v) Nanostructures and their uses
vi) An alternative method of production
vii) Computing and nanostructures
viii) Types of nanobots

## NANOTECHNOLOGY: A REVOLUTION IN PRODUCTION

Q0: $\mathbf{A}$ ) $=. .$.
(A) We make nearly everything by tearing things apart. To make paper, trees are planted, chopped down and sent through our mills. This is often called a top-down method of production. But what if we could work from the bottom up? What if paper was constructed atom by atom, the smallest building blocks of life and matter? It is thought that nanotechnology is the way to do this. Nanotechnology is the science of creating objects on a level smaller than 100 nanometres, a scale 50,000 times smaller than a human hair. The aim of nanotechnology is the bottom-up production of virtually any material or object by
 assembling it one atom at a time.
Q10: B) = ...
(B) Nanotechnology moved from idea to reality when tools such as the Atomic Force Microscope IAFMI and the Scanning Tunnelling Microscope ISTMI were developed by IBM in Zurich. These microscopes do more than just let people see small things, they also allow atoms to be manipulated in a vacuum, liquid or gas. Individual atoms and molecules are probed by the AFM to create three-dimensional images at the nanoscale level as the microscope is moved across the surface of an object. STMs can etch surfaces and move individual particles. Even more advanced tools for nanoscale growth and nanoparticle assembly are under development.
Q11: C) = ...
(C) There are two ways to produce nanostructures: they can be grown or assembled atom by atom. At present most nanotechnology applications begin with the growth of basic nanostructures rather than the assembly of materials and objects one atom at a time. By bonding a molecule with a particle, or single atom, scientists are able to create objects such as fullerenes: molecules of carbon atoms that when put together form tubular fibres, called nanotubes. These nanostructures include nanotubes, nanohexagons and nanowires. Such nanostructures are used to create high-strength, low-weight materials - when these fibres are threaded together and crystallised they can act like metal, but are 100 times stronger and four times lighter than steel. Nanostructures can also form super small electronic circuits - it is hoped that these structures will be used in computing and reduce the size of a computer to the size of a full stop. Other nanostructures are circular and include nanoshells, nanospheres and nanocircles. Circular nanostructures are used for energy wave reflection and can be found today in products like sun cream and self-cleaning glass. 50 far, most of these nanostructures have been relatively expensive to manufacture. However, production costs are dropping with the invention of more efficient manufacturing methods and nanomaterials are being used in a wider and wider range of products.
Q12: D) =...
(D) The field of nanotechnology has two major problems. The first is learning how to successfully manipulate material at the molecular and atomic level. using both chemical and mechanical tools. This is being developed by researchers and there are successes in the lab and practical applications. The second is to develop selfreplicating nanomachines or nanobots. Nanobots are miniature robots that work on the scale of atoms and molecules. One of the most anticipated uses of nanotechnology is the creation of medical nanobots, made up of a few molecules and controlled by a nanocomputer or ultrasound. These nanobots will be used to manipulate other molecules, destroy cancer cells or construct nerve tissue atom by atom in order to end paralysis. Although they are made and function on the scale of atoms and molecules, nanobots will be able to wark together to produce macroscale results. Precursor devices to nanobots have already been created, some can even walk. However, true nanobots have not yet been created.

Q13: $\mathbf{E}$ ) $=\ldots$
(E) To produce objects from the bottom up at the level of atoms will need armies of advanced nanobots. These are classified into two types: assembly nanobots and a special class of assembly nanobots: self-replicators. Advanced nanobots will be able to sense and adapt to the environment, perform complex calculations, move, communicate, and work together; conduct molecular assembly; and, to some extent, repair or even reproduce themselves. Yet creating these nanobots is a slaw and precise process due to the microscopic size of these tiny machines. Therefore the key to this technolagy becoming a reality is to make the nanobot replicate itself. It is the discovery of how to create this process, as well as the means to control it, which is key to fulfilling the potential of nanotechnology. Same environmentalists are concerned that nanobats may go wrong, leading to unlimited and uncontrolled selfreplication.
Q14: F) =...
(F) If this takes place, nanobots may destroy our ecosystem. While mankind must be careful to ensure that this does not occur, there is also the possibility that nanobots could form the ultimate environmentally-friendly recycling system. Nanobots may one day convert our mountains of trash and hazardous waste into useful products and beneficial materials.

Task 2.2. Read the passage again. Do the statements agree with the information given in the Reading Passage? Write TRUE if the statement is true according to the passage. FALSE if the statement is false according to the passage. NOT GIVEN if the statement is not given in the passage. Eg.: 0 -TRUE
0 Everything is made of things that are broke into a lot of small pieces
15 Bottom-up production is the science of small objects.
16 An STM rakes pictures of atoms and molecules.
17 Nanostructures are costly to make.
18 Researchers have been successful in making simple nanobots.
19 Nanobots will need to communicate with the scientists who control them.
20 Nanobots could help us with the problems of pollution.

## III. Use of English <br> Maximum score for Use of English section = 20 points <br> Time for Use of English section $=\mathbf{3 0}$ minutes

For questions 1-12, read the following informal note about a poetry competition and use the information in this text to complete the publicity leaflet about the competition. Use no more than two words for each gap. The words you need do not occur in the informal note. Eg.: 0 - annually

## Jack,

Believe it or not, it's been nearly a year since the last poetry competition and it's time to have it again this year. Can you put together a leaftet about it? Here are the points to include:

- We don't want poems to be longer than 30 lines.
- They can be written for either children or adults, but we want them to be entertaining, so explain that we'd really like ones that make people laugh.
- We can't afford to return poems, so if people want them back after the competition they'll have to send us a stamped, addressed envelope with the entry.
- People can send in as many entries as they like, but nobody will be able to win more than one prize.
- They've got to send an entry form in with their poem (they can get these from libraries and bookshops).
- We're charging $£ 10$ to enter the competition, and this should be sent with the entry form (but point out that they only pay $£ 5$ if they live in this area).
- Mention that entries must be in by March 27 and that the names of the people who will receive prizes will be known about a fortnight later.

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PUBLICITY LEAFLET:
CALLING ALL POETS!
A poetry competition is held in our town (0) ..... and entries are now being invited for this year's competition.
Poems should be (1) ..... of thirty lines in length. They may be written with either children or adults (2) ..... , but
this year the emphasis is on entertainment, and poems which display plenty of (3) ..... will be especially
welcome. Unfortunately, because of the very (4) ..... of postage, entries will not be returned unless a stamped,
addressed envelope (5) ..... with the entry. There is (6) ..... to the number of poems which may be submitted, but
only one prize will (7) ..... to any one individual. Poems must be (8) ..... by an official entry form
(obtainable from libraries and bookshops) together with the correct (9) ..... of \(£ 10\). There is a ( \(\mathbf{1 0}\) ) ..... rate
available for (11) ..... residents. The (12) ..... is March 27 and the names of the prize-winners will be announced
on April 10.
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Task 2. For questions 1-7, complete the second sentence so that it has a similar meaning to the first sentence, using the word given. Do not change the word given. You must use between three and six words, including the word given. Eg: 0- WISHED SHE HAD SPOKEN MORE

0 ) Jane regretted speaking so rudely to the old lady. - MORE - Jane $\qquad$ politely to the old lady.
13) Luke had never been invited to a film premiere before. - FIRST -It was $\qquad$ had an invitation to a film premiere.
14) Did the cast dance any better in last night's performance? IN - Was dancing in last night's performance?
15) I wasn't at all surprised when I heard that Melanie had got the part in the show. - hear - It came as.
... ... ... Melanie had got the part in the show.
16) Camilla doesn't mind whether she dances on stage or in a TV show. - NO - It $\qquad$ whether she dances on stage or in a TV show.
17) Unless anyone objects, I intend to start a self-help group for new employees. - NOBODY - Providing ... ... ... ... objections, I intend to start a self-help group for new employees.
18) The pain in my back never recurred after I went to see the acupuncturist. - OF - There pain after I went to see the acupuncturist.
19) Ursula had been told that some people in her department felt bullied. - BROUGHT - It $\qquad$ that some people in her department felt bullied.
20) Chloe didn't drive her father's car because she was scared she might scratch the paintwork. - FEAR - Chloe didn't drive her father's car $\qquad$ the paintwork.

## IV. Writing <br> Maximum score for Writing section = 40 points Time for Writing section = $\mathbf{5 0}$ minutes

Your invigilator has a variety of cards with wiring tasks. Choose one and complete the task. You may not change once you have chosen. Write on your answer sheet.

