INSTRUCTIONS TO CANDIDATES

* Answer **all** the questions in Section A and **one** question in Section B as indicated.

INFORMATION FOR CANDIDATES

* The number of marks for each question is given in brackets [ ] at the end of each question or part of question.
* The total number of marks for this paper is **100**.
* In your answers you should draw upon your studies from the Cultural, Scientific and Social Domains to demonstrate a broad understanding of the issues.
* **Where an answer requires a piece of extended writing, the quality of your written communication will be assessed, including clarity of expression, structure of arguments, presentation of ideas, spelling, punctuation and grammar.**

ADVICE TO CANDIDATES

* Read each question carefully and make sure you know what you have to do before starting your answer.

Section A

Answer **all** questions.

1 Here are **two** accounts of events in the 1940s. They both tell of people in the UK helping to break the Enigma code.

SOURCE 1

> One of the good results was that a British cryptographer had at last managed to read some enigma messages. The codebreaker was Peter Twinn, a twenty-three year old Oxford graduate with a First in mathematics. He started his career as a crypt, working alongside Dilly Knox at Broadway, the codebreaking centre near St James's Park in London before GC&CS was moved to Bletchley Park. Twinn could not speak German but this was not the problem. The obstacle holding up Twinn and Dilly Knox, was their inability to reconstruct the Enigma machine. This changed in 1939 when Knox came back from Poland with details of the internal wiring.

5

SOURCE 2

> Everyday, the code breakers, Jericho among them, fed their possible solutions into the bombes - immense electro-mechanical computers, each the size of a walk-in wardrobe, which made a noise like a knitting machine – and waited to be told which guess was correct. And everyday they received no answer. The task was simply too great. Even a message enciphered on a three-rotor Enigma might take 24 hours to decode, as the bombes clattered their way through the billions of permutations. A four-rotor Enigma, multiplying the numbers by a factor of twenty six, would theoretically take the best part of a month.

5

One of these extracts is taken from the novel 'Enigma' by Robert Harris[1], 1995. The other is from 'Enigma' by Hugh Sebag-Montefiore[2], 2000.

State, giving your reasons, which of the extracts you suspect is taken from a novel. **[10]**

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[1] Extract from 'Enigma' by Robert Harris published by Hutchinson/Arrow. Reprinted by permission of The Random House Group Ltd.

[2] Extract from 'Enigma; Battle of the Code' by Hugh Sebag-Montefiore published by Weidenfeld & Nicholson. Reprinted by permission of The Orion Publishing Group and Curtis Brown Group Ltd.

2 During a pay dispute at an airport, these statements were issued to the press.

   (a) 'The average annual wage of our employees is £20 000' (Chief Executive).

   (b) 'Most people here earn less than £15 000 in a year' (Trade Union representative).

   (c) 'I believe a mid-range salary is about £17 000' (Baggage handler).

   Explain how these people have used different statistical methods to promote their point of view. What **other** statistical methods could they use? **[10]**

3 Consider the following list of buildings found in a large village:

   Doctor's house   School   Public house   Village shop

   Doctor's surgery   Church   Village hall   Bus shelter

   Detached house   Farm house   Workshop   Bungalow

   Terraced cottage   Blacksmith   Public toilet   Stables

   Gift shop   Vicarage   Guest house   Youth hostel

   Butcher   Greengrocer   Manor house

   Sort the list into **three** groups, labelling them A, B and C. Give each group a name that reflects its membership. Explain your reasons for the grouping you have made. Make mention of any problems you had in forming the groups. **[10]**

4 A newspaper reporter is preparing an article for publication. Explain how they could use the tools of language, mathematical reasoning and classification in their work. **[20]**

Section A Total [50]

4

Section B

Answer **one** question in this section.

Answers must be in the form of an essay.

5 Each year, panels of judges, under the guidance of a chairperson, award prizes within the Arts. Select **one** of the following categories:

- an architect responsible for the renovation of old buildings

- a designer of a summer clothes collection

- a news photographer

- a sculptor using recycled materials

- a lyricist for a stage or screen musical

- an author writing biographies.

Identify and justify **five** criteria the judges could use to decide on the most successful artists in your chosen category.
Explain why some of the judges might have difficulty in using **two** of the criteria you have chosen. **[50]**

6 In terms of health and disease control, do you wish your lifetime could be that of your grandparents, your own or your children?

Name your chosen generation and suggest the approximate dates of their lifetime.
Justify your choice and give reasons for rejecting each of the others.
Explain why some doctors might disagree with your choice. **[50]**

7 In the UK, the number of people over the age of 65 and expecting to receive a state pension is increasing. Government funds to support the state pension are limited.

Identify, giving your reasons, which **one** of the following proposals is more likely to produce the 'fairest' solution.
Make clear your definition of 'fairest'.

A Delay the retirement age until the ages of 67 or 69 years.

B Only pay state pensions to the most in need.

C Make it compulsory for everyone at work to save for a private pension.

D Pay a smaller pension to everyone at the age of 65. **[50]**

Section B Total [50]

Paper Total [100]

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced GCE

GENERAL STUDIES   F733MS

Unit F733: Domain Exploration: Applying synoptic skills

Specimen Mark Scheme

The maximum mark for this paper is **100**.

Generic Mark Scheme for questions worth 50 marks

AO1	Level descriptor The candidate demonstrates the following abilities where appropriate to:	Marks
Level 1	• select, use and integrate a very good range of relevant knowledge • show a good understanding of the concepts involved	**4**
Level 2	• select, use and integrate a good range of relevant knowledge • show an understanding of the concepts involved	**3**
Level 3	• select, use and integrate a range of relevant knowledge • show an adequate understanding of the concepts involved	**2**
Level 4	• select, use and integrate some relevant knowledge • show a limited understanding of the concepts involved	**1**
AO2	Level descriptor The candidate demonstrates the following abilities where appropriate to:	
Level 1	• interpret and analyse issues and problems well and evaluate them appropriately • use evidence to develop complex reasoned arguments and draw sound conclusions on the evidence	**19-22**
Level 2	• interpret and analyse issues and problems and evaluate them competently • use evidence to develop reasoned arguments and draw conclusions on the evidence	**15-18**
Level 3	• undertake some interpretation and analysis of issues and problems and make a superficial evaluation • use evidence to develop arguments and draw conclusions	**11-14**
Level 4	• demonstrate limited interpretation and analysis of issues and problems with limited evaluation • use evidence to develop limited arguments and draw limited conclusions	**6-10**
Level 5	• demonstrate poor interpretation and analysis of issues, problems and evaluation • recognise arguments and conclusion.	**1-5**

AO3	**Level descriptor** The candidate demonstrates the following abilities where appropriate to:	**Marks**
Level 1	• demonstrate very good awareness of the differences between types of knowledge • have a very good appreciation of the strengths and limitations of the different types of knowledge	**8**
Level 2	• demonstrate good awareness of the differences between types of knowledge • have a good appreciation of the strengths and limitations of the different types of knowledge	**6-7**
Level 3	• demonstrate awareness of the differences between types of knowledge • have an appreciation of the strengths and limitations of the different types of knowledge	**4-5**
Level 4	• demonstrate limited awareness of the differences between types of knowledge • have a restricted appreciation of the strengths and limitations of the different types of knowledge	**2-3**
Level 5	• demonstrate very limited awareness of the differences between types of knowledge • have a very restricted appreciation of the strengths and limitations of the different types of knowledge.	**1**
AO4	**Level descriptor** The candidate demonstrates the following abilities where appropriate to:	
Level 1	• communicate complex ideas clearly and accurately, using specialist vocabulary where appropriate, in a concise, logical and relevant way • use a wide range of the rules of grammar, punctuation and spelling with accuracy and facility	**14-16**
Level 2	• communicate ideas clearly and accurately, using specialist vocabulary where appropriate, in a concise, logical and relevant way • use a range of the rules of grammar, punctuation and spelling with facility	**11-13**
Level 3	• communicate clearly, using some specialist vocabulary with facility • use some of the rules of grammar, punctuation and spelling with facility	**8-10**
Level 4	• communicate ideas with limited clarity, using some specialist vocabulary • use some rules of grammar, punctuation and spelling	**5-7**
Level 5	• communicate with little clarity using occasional specialist terms • use poor grammar and punctuation, and inaccurate spelling.	**1-4**

Section A		
Question Number	**Answer**	**Marks**
1	**State, giving your reasons, which of the extracts you suspect is taken from a novel.** *Extract B is taken from the novel by Robert Harris.* *However candidates could gain full marks for a convincing case for either extract. The main skills are focused reading, the linking of style to content and purpose, and analysis of those links.* Max 3 marks for suggesting why source is a novel include: • range of emotive language • some sense of drama developed • use of pseudo-technical language • narrative reconstruction of personal experiences and feelings • only a general sense of time, place and people • absence of verifiable names. Max 6 marks for supporting each point by evidence from the extract: • language – 'immense', 'walk-in', 'waiting to be told' • drama – 'everyday they received no answer', 'clattered their way through billions' • pseudo-technical – 'bombes', 'enciphered', 'electro-mechanical' • verifiable names – compare to Extract A, the only name is Jericho. Max 1 mark for a coherent account linked to the sources.	**[10]**
2	**During a pay dispute at an airport, these statements were issued to the press.** **(a)** '**The average annual wage of our employees is £20 000**' **(Chief Executive).** **(b)** '**Most people here earn less than £15 000 in a year**' **(Trade Union representative).** **(c)** '**I believe a mid-range salary is about £17 000** **(Baggage Handler).** **Explain how these people have used different statistical methods to promote their point of view. What <u>other</u> statistical methods could they use?** *The first part of the question is the use of three different averages. As well as differentiating between them, candidates will synthesise the choice of the average used to the purpose for which it is to be used.* *The second part of the question invites candidates to offer other techniques including:* • *regression analysis* • *time trend indicators*	

Section A		
Question Number	**Answer**	**Marks**
2 cont'd	• *cost of living indices.* Examiners will assess the suggestions of candidates in the context of a pay dispute and the appropriateness of the suggested indicator. Max 3 marks for: • the Chief Executive uses the *mean* average • the Trade Union representative uses the *modal* average • the Baggage Handler uses the *median* average. Max 6 marks (max 2 for any one bullet) for: • *mean* average includes extreme values and can thus be inflated by the inclusion of a small number of very high salaries • *modal* average is the wage/salary paid to most people, in this case there are likely to be more people on lower salaries than the few highly paid managers • *median* average is found by ranking all wages/salaries and then finding a middle figure. Max 1 mark for a coherent and accurate account linked to the scenario described.	**[10]**

Section A		
Question Number	**Answer**	**Marks**
3	**Consider the following list of buildings found in a large village:**	

Consider the following list of buildings found in a large village:

Doctor's house	**School**	**Public house**	**Village shop**
Doctor's surgery	**Church**	**Village hall**	**Bus shelter**
Detached house	**Farm house**	**Workshop**	**Bungalow**
Terraced cottage	**Blacksmith**	**Public toilet**	**Stables**
Gift shop	**Vicarage**	**Guest house**	**Youth hostel**
Butcher	**Greengrocer**	**Manor house**	

Sort the list into <u>three</u> groups, labelling them A, B and C. Give each group a name that reflects its membership. Explain your reasons for the grouping you have made. Make mention of any problems you had in forming the groups.

The candidates are required to:
- sort the list into three groups, labelling them A, B and C
- give each group a descriptive name
- explain the grouping made
- make mention of any difficulties experienced in forming the groups.

Constructing the taxonomy, explaining its operation and elucidating its possible drawbacks will synthesise a range of skills appropriate to the synoptic nature of this question.

Max 3 marks (1 for any one *developed* bullet) for:
- understands that within-group variance should be smallest
- understands that between-group variation should be as large as possible
- understands that the number of groups (3) should include all buildings on the list
- understands that no group should have very small or no members.

Section A		
Question Number	**Answer**	**Marks**
3 cont'd	Max 6 marks (max 3 for any one *developed* bullet) for: • makes recognition of **three** groups • gives names appropriate to group members • gives reasons for bringing members together in group • points out difficulties, weaknesses or ambiguities in the groupings. Max 1 mark for a coherent account linked to the tasks set.	**[10]**
4	**A newspaper reporter is preparing an article for publication. Explain how they could use the tools of language, mathematical reasoning and classification in their work** *The question expects candidates to draw upon all **three domains** used in questions 1,2 and 3 viz. language, mathematics and classification. These are drawn from the content of each domain.* Indicative content Tools of language: • style of writing; • range of vocabulary • sentence length and structure • provenance of sources • use of metaphor • inclusion and selection of examples. Mathematical reasoning: • selection of indicators • source of data • hidden persuaders • selective samples • biased selection of information • percentages without populations. Classification: • organise large amounts of data or items • search for patterns through grouping • allocate descriptive names to groupings • allows for a check that different cases are considered • groupings may suggest common features or factors • ambiguous data can be revisited • anomalous data may suggest refinement of the classification • offers support or qualifies forecasts in the study area • identifies trends or developments from past data • supports the development of a hypothesis • re-examine, develop and refine or reform past hypotheses • may mean data revisited for errors.	**[20]**

Section A		
Question Number	**Answer**	**Marks**
4 cont'd	Up to 8 marks for each heading Max 5 for evidence (AO1/AO2), Max 2 for AO3 and 1 for AO4 (Clarity of text).	**[20]**
	Section A Total	**[50]**

Section B		
Question Number	**Answer**	**Marks**
5	**Each year, panels of judges, under the guidance of a chairperson, award prizes within the Arts. Select <u>one</u> of the following categories:** • **an architect responsible for the renovation of old buildings** • **a designer of a summer clothes collection** • **a news photographer** • **a sculptor using recycled materials** • **a lyricist for a stage or screen musical** • **an author writing biographies.** **Identify and justify <u>five</u> criteria the judges might use to decide on the most successful artists in your chosen category.** **Explain why some of the judges might have difficulty in using <u>two</u> of the criteria you have chosen.** **Candidates' responses to this question involve the collation of criteria, their operation and application, and analysis of any factors which might hinder the process.** **Criteria** could include: • innovation, something new to surprise or shock • the use of novel or experimental techniques • skilled craftsmanship • popular acclaim • clarity and accessibility of message • content of message • commercial success • influence on other creative people • work which is respected by the creative person's peers • use of materials • fit to location and/or fitness for purpose. Reasons for judges **difficulty in using** the criteria: • lack of expertise • disagreement with interpretation • opposition to any order of merit • differences of application to individuals • clashes between judges • bending of criteria to try to get a unanimous compromise winner • difficulties in recognising the work as 'creative' or 'art' • tensions between artistic, commercial and popular success • influence of any sponsors of the awards • tensions of popular appeal and populism • cultural provenance.	

Section B		
Question Number	**Answer**	**Marks**
5 cont'd	**Exemplification of candidate performance at levels 1, 3 and 4.** **The exemplification is provided to give a general indication of the standards of achievement likely to have been shown by the candidates awarded the particular levels. The level awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall.**	
	Level 1** candidates will identify and justify **five** criteria (AO1/AO2) and have a clearly developed idea (AO3) of the **two** criteria with which the judges will have difficulty (AO1/AO2). These answers will be clearly structured and written with facility (AO4).	**48-50**
	Level 1* candidates will identify and justify **five** (AO1/AO2) criteria and have a clear idea (AO3) of the **two** criteria with which the judges may have difficulty (AO1/AO2). These answers will be clearly structured and written with facility (AO4).	**45-47**
	Level 1 (rest of) candidates will identify and justify at least **four** criteria (AO1/AO2) to be used and will have some idea (AO3) of **two** criteria that judges may have difficulty in using (AO1/AO2). These answers will be clearly structured and written with facility (AO4).	**41-44**
	Level 3 candidates will identify and justify **two** or **three** criteria (AO1/AO2) and have some suggestions for criteria (AO3) where difficulty will be experienced (AO1/AO2). The answers will be clearly written though they may contain some errors in spelling, punctuation and grammar (AO4).	**21-30**
	Level 4 candidates will identify some criteria to be used but will be vague about any difficulties experienced (AO1/AO2). The text will contain errors in expression and may lack some clarity (AO4).	**11-20**
	Recommended annotation: *C1, C2, C3, C4 and C5 for criteria.* *J1, J2, J3, J4 and J5 for justification of criteria.* *Use dev for development of these headings.* *Diff1 and Diff 2 for difficulties.* *Use Intro, Dev and Conc as appropriate.*	
6	**In terms of health and disease control, do you wish your lifetime could be that of your grandparents, your own or your children?** **Name your chosen generation and suggest the approximate dates of their lifetime. Justify your choice and give reasons for rejecting each of the others.** **Explain why some doctors might disagree with your choice.** *The modal age for students taking this paper will be 17.* *Grandparents 1935 - 2010* *Student 1988 - 2080* *Children 2010 – 2100* *The candidate names a group and the approximate years of the group's lifetime.* **No marks for this introductory material.**	

Section B		
Question Number	**Answer**	**Marks**
6 cont'd	In answering this question candidates will synthesise their own knowledge, including their own family histories, with an analytical account of how disease and its prevention or cure might have affected three generations of it. Accounting for their preference, and the rejected choices will involve, at the higher levels, sophisticated evaluation skills. Considerations will include: • life expectancy and survival at birth • threats to health from childhood illnesses, cancer, heart disease, industrial disease, AIDS, SARS, MRSA and unknown future illnesses including cross-species diseases such as avian influenza • war (1939-45, atomic bomb, cold war, terrorism) • general health of the population, housing conditions, working conditions • understanding of factors of well-being • access to health care • diet • education e.g. birth control, sex education. Reasons for disagreement from some doctors: • personal experience of grandparents' lives or accounts • reported historical accounts • fashions in medicine e.g. 'natural childbirth' vs elective Caesarean surgery • scale of problems such as AIDS, SARS, epidemics • increased use of drugs • knowledge of future developments • problems with health service provision • dietary restrictions e.g. rationing produced a healthier generation during WWII • commercial pressure for young people to eat fast food diets • changing attitudes to medical treatments e.g. euthanasia • quality of life of some older people. *Note that the 'might' used in the question allows for the support of doctors.* **Exemplification of candidate performance at levels 1, 3 and 4. The exemplification is provided to give a general indication of the standards of achievement likely to have been shown by the candidates awarded the particular levels. The level awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall.** **Level 1**** candidates will include at least **three** developed reasons. They will give clear reasons for the rejection of the other **two** age groups (AO1/AO2). They will suggest **two** reasons for the views held by some doctors (AO3) and these will be clearly in opposition to the choice presented. These answers will be clearly structured and written with facility (AO4).	**48-50**

Section B		
Question Number	**Answer**	**Marks**
6 cont'd	**Level 1*** candidates will include at least **three** reasons, **two** of which will be developed. They will give clear reasons for the rejection of the other **two** age groups (AO1/AO2). They will suggest **two** reasons for the views held by some doctors (AO3). These answers will be clearly structured and written with facility (AO4).	**45-47**
	Level 1 (rest of) candidates will include at least **two** developed reasons for their choice and a reason for the rejection of the other **two** (AO1/AO2). They will suggest **one** reason for the view held by some doctors (AO3). These answers will be clearly structured and written with facility (AO4).	**41-44**
	Level 3 candidates will have at least **one** developed reason for their choice and a reason for the rejection of the others (AO1/AO2). They will include material suggesting a reason for the view held by some doctors to the choice (AO3). The answers will be clearly written though they may contain some errors in spelling, punctuation and grammar (AO4).	**21-30**
	Level 4 candidates will have a reason for their choice and something to offer on their reason for rejection (AO1/AO2). The text will contain errors in expression and may lack some clarity (AO4).	**11-20**
	Recommended annotation: *C for choice of generation* *D for dates of chosen generation* *J1, J2 for justifications of choice* *R(x) for rejection of one other where (x) is one from G,O or Ch* *R(y) for rejection of one other where (y) is one from G, O or Ch* *D1, D2 for objections raised by doctors* *Use Intro, Dev and Conc as appropriate.*	

Section B		
Question Number	**Answer**	**Marks**
7	**In the UK, the number of people over the age of 65 and expecting to receive a state pension is increasing. Government funds to support the state pension are limited.** **Identify, giving your reasons, which <u>one</u> of the following proposals is more likely to produce the fairest solution.** **Make clear your definition of 'fairest'.** **A Delay the retirement age until the ages of 67 or 69 years.** **B Only pay state pensions to the most in need.** **C Make it compulsory for everyone at work to save for a private pension.** **D Pay a smaller pension to everyone at the age of 65.** The question requires candidates to create a definition of fairness in an emotive area of social policy and then apply to a series of alternatives none of which can be wholly acceptable to a majority of the population. Creative thinking is thus combined with analytical and evaluative skills. A – Delay the retirement age until the ages of 67 or 69 years: • more people will die before drawing pension • reduces number of years that pensions are to be paid • increases number of years during which contributions are made • contributions may be higher with experienced people in higher posts • allows older people to continue to work and make a contribution to GDP • has the potential to be a voluntary scheme • should require no additional bureaucracy.	

Section B		
Question Number	**Answer**	**Marks**
7 cont'd	B – Only pay state pensions to the most in need: • reduces burden on state • reduces burden on those in work • encourages individuals to make private arrangements • greater flexibility to retire at chosen age • saves waste of money paid to the wealthy then collected in taxes • relatively simple to administer through the Inland Revenue. C – Make it compulsory for everyone in work to save for a private pension: • enhances individual responsibility • choice to make high payments or low ones • encourages career progression • contributions can be used for investment • lowers burden on tax payers • may be cheaper to administer as employers could deduct contributions from earnings. D – Pay a smaller pension to everyone at 65: • reduces need for higher contributions from workers • ensures no one is without • can be collected back in taxes from the rich • security for everyone • maintains a principle of the Welfare State, may be the most politically acceptable • allows increases in pensions to be below rate of inflation so that cuts can be hidden. Definitions of fairest: • no one is below poverty line • everyone is responsible for everyone else • the burden, appropriately, is borne by those in employment • equality of treatment without precondition • transparent to all • clarity, no-one should be under any misunderstanding about their entitlement • requires individual responsibility from all • not giving a false impression • not intrusive or undignified on some e.g. means testing • works towards the greatest good for the greatest number.	

Section B		
Question Number	**Answer**	**Marks**
7 cont'd	**Exemplification of candidate performance at levels 1, 3 and 4. The exemplification is provided to give a general indication of the standards of achievement likely to have been shown by the candidates awarded the particular levels. The level awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall.**	
	Level 1** candidates will identify their chosen means and give **three** developed reasons for their choice (AO1/AO2). They will explore more than **one** definition of 'fairness' and link the definition they have used to their choice (AO3). These answers will be clearly structured and written with facility (AO4).	**48-50**
	Level 1* candidates will identify their chosen means and give **three** reasons for their choice of which **two** will be developed (AO1/AO2). They will explore **one** definition of 'fairness' and link the definition they have used to their choice (AO3). These answers will be clearly structured and written with facility (AO4).	**45-47**
	Level 1 candidates will identify their chosen means and give **three** reasons for their choice of which **two** will be developed (AO1/AO2). They will define 'fairness' and link the definition they use to their choice though perhaps not fully securely (AO3). These answers will be clearly structured and written with facility (AO4).	**41-44**
	Level 3 candidates will identify their chosen means and give **two** reasons for their choice (AO1/AO2). They may include some attempt at the word 'fairness' (AO3). The answers will be clearly written though they may contain some errors in spelling, punctuation and grammar (AO4).	**21-30**
	Level 4 candidates will identify their chosen means giving a reason for their choice (AO1/AO2). The text will contain errors in expression and may lack some clarity (AO4).	**11-20**
	Recommended annotation: *I to identify chosen means* *J1, J2, J3 for justification of choice (This may include rejection of others but not reflexive pairs)* *F1, F2, F3 for discussion of the concept of fairness* *Include Intro, Dev. and Conc.*	
	Section B Total	**[50]**
	Paper Total	**[100]**

Assessment Objectives Grid (includes QWC)

Question	AO1	AO2	AO3	AO4	Total
1	2	7	0	1	**10**
2	2	7	0	1	**10**
3	2	7	0	1	**10**
4	10	7	2	1	**20**
5/6/7	4	22	8	16	**50**
Totals	**20**	**50**	**10**	**20**	**100**