

## April 2019 Final Examination

#### **Version #1**

# Terrestrial Planets EPSC 180 April 29, 2019 18h30

EXAMINER: Olivia Jensen ASSOC. EXAMINER: Jeanne	e Paquette
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STUDENT NAME:		McGILL ID:									
INSTRUCTIONS:											
	CLOSED BOOK ■	OPEN BOOK									
	SINGLE-SIDED □	PRINTED ON BO	HTC	SID	ES	OF	THE	PAG	GE <b>I</b>		
EXAM:	MULTIPLE CHOICE  NOTE: The Examination Security Monitor Program detects pairs of students with unusually sim answer patterns on multiple-choice exams. Data generated by this program can be used admissible evidence, either to initiate or corroborate an investigation or a charge of cheat under Section 16 of the Code of Student Conduct and Disciplinary Procedures.							d as			
ANSWER IN BOOKLET □ EXTRA BOOKLETS PERMITTED: YES □ NO ■											
	ANSWER ON EXAM ■										
	SHOULD THE EXAM BE:	RETURNED ■		KEF	ТΒ	SY S	TUD	ENT			
CRIB SHEETS:	NOT PERMITTED ■	PERMITTED [									
DICTIONARIES:	TRANSLATION ONLY	REGULAR □	١	ION	Е□	]					
CALCULATORS:	NOT PERMITTED	PERMITTED (W	itho	ut t	ext	cap	abli	ility)			
ANY SPECIAL INSTRUCTIONS: e.g. molecular models	Detailed instructions are found on page 2, following. The exam has 20 pages including this cover page										

Student Name:

Student Number:

#### **DETAILED INSTRUCTIONS**

<u>Instructions:</u> The examination comprises three Parts and 20 pages including this instruction page and the cover page.

<u>Part I:</u> The 60 multiple-choice and true-false questions of Part I of this exam must be answered on the computer coding sheet in rows 1 to 60. Make sure that your <u>student ID#</u> is correctly entered into the bubbles on the upper left corner of your sheet. There are 2 <u>versions</u> of this examination. Make sure that the <u>version number</u> appropriate to this exam is correctly entered in the column designated "VERSION" on your computer answer sheet. This may have been done for you.

<u>Part II:</u> The 13 short-answer questions must be answered within the lined boxes provided. Answer all question. Be sure to place your name on the front page of this exam and at the top of the pages of Parts II and III (i.e. pages 15 to 20) so that we can identify *your* work.

<u>Part III:</u> The opinion question is worth 1 marks (1% of your final grade); do offer your opinion to the question asked... whatever your opinion, it is 1 free mark if answered. You might use this question to relax yourself before leaving the exam.

No explanation of any question asked on this exam can be given during the exam because of the very large number of students taking the exam. If you have reason to question the clarity of any question asked, note your concern briefly in the margin and note the question number at the bottom of this cover page; we may consider your objection during grading of the question.

The value contribution towards the final grade for each question in this examination is noted in square brackets after the question header. If you completed the term-work, this examination counts for 70% toward the final course grade; the exam is graded to 100 marks and will be scaled by 70/100 for those who completed term work for 30%.

You are <u>not permitted</u> to use calculators that have text-memory capabilities or translation dictionaries that have not been approved by an invigilator.

Please ensure that your <u>name</u> and student <u>registration number</u> are inscribed properly on your computer grading sheet, on the front page of this exam and (at least) at the top of the pages of Parts II and III.

The Examination Security Monitor Program detects pairs of students with unusually similar answer patterns on multiple-choice exams. Data generated by this program can be used as admissible evidence, either to initiate or corroborate an investigation or a charge of cheating under Section 16 of the Code of Student Conduct and Disciplinary Procedures.

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Terrestrial Planets EPSC 180 Winter 2019 Final Examination
Student Name: Student Number:

Part I This section comprises 50 multiple-choice and 10 true-false questions. Each question is worth 1/2 mark. That is, this section is worth 30 marks, total. Indicate your answer by filling in the appropriate "O" open circle on the computer grading (Scantron) sheet. You should use pencil so that you can erase your reconsidered answers. Make sure that you have properly filled in your *student ID#* and the *version number* of this exam on the grading sheet. [30 marks]

### This is Version 1

- 1. The atmospheric pressure on the surface of Venus is (complete the sentence)
  - A) nearly the same as the atmospheric pressure at sea level on Earth.
  - B) about 0.01 times (i.e. 1% of) the atmospheric pressure at sea level on Earth.
  - C) yet unmeasured as we have not yet descended with probes onto the surface of Venus.
  - D) 740 K because Venus surface is maintained at such high temperature by a strong greenhouse effect.
  - E) about 90 to 100 times the atmospheric pressure at sea level on Earth; that is, equivalent to the pressure at 1.3km of depth in the oceans.

#### **True-false questions (10 questions)**

- 51. The Sun's nuclear fires started fusing hydrogen into helium about 4.6 billion years ago.
  - A) TRUE
  - B) FALSE

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D4 II			
<u>Part II</u>	Short ans	wer questions	
Please keep your response to eabox. These questions are graded the question), 2 marks (well add all questions. [ 39 marks ]	ach of the following on a schedule of	ng thirteen questions with f 0 marks (complete miss)	, 1 mark (addresses some of
In the 1970s, <i>Vera Rubin</i> use of the galaxy interior to the orbit mass of galaxies. <i>There is</i> no ne	al path of the star	s. Explain what she, in pr	inciple, discovered about the

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Part III			
An opportunity to express you human drive to learn about out knowledge. In a very short essuargue either for or against the which face humanity on Earth responsibility for our future. [	or environment in the say or personal oping continuation of thing.  I am interested in the steel in the same interested in the same inter	he universe maintains us in nion statement, restricted is s expensive science in vie	in our quest for such cultural in space to the box following w of other pressing problems
<i>On grading:</i> As this questi- with reasoned consideration			those students who respond
	1		
	1		