

## MA1505 Mid Term Test

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### General Information

1. Date: Wednesday, 29 September 2010.
2. Time: From 8:30pm to 9:30pm.
3. Venue: MPSH 1 and MPSH 2. Please check the PDF files in the “Test Sitting Plan” folder in the Workbin at the IVLE website to find out your test venue. The sitting plans are arranged according to the students’ names in alphabetical order.
4. Format: 10 Multiple choice questions based on Chapters 1, 2, 3 and 4.
5. This is a close book test and **NO** help-sheets are allowed. A formulae list (see the attached sample) will be included in the question paper.
6. There is enough blank space and 13 blank pages on the back of each sheet in the question paper for you to do your calculations. You are **NOT** allowed to bring any other paper into the test halls.

7. You must bring your matriculation card, 2B pencils, erasers and your calculators to the test. Only non graphing calculators are allowed. Note: Students are not allowed to borrow calculators from each other during the test.

8. Sitting plan: Please sit for the test strictly according to the sitting plan in the PDF files mentioned above.

MPSH 1 and MPSH 2: All students taking the test here should follow strictly the seat number assigned to them in the PDF files.

(MPSH 1 and MPSH 2 refers to the multi-purpose sports hall 1 and hall 2 respectively at the Sports Centre.)

9. Anyone taking the test at a wrong venue will risk having the answer sheet misplaced and end up getting a zero for the CA marks.

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## **During the Test**

10. All examination rules must be strictly followed during the test. In particular, **do not start writing before you are told to do so. Do not talk to each other during the test.**

**Stop writing immediately after the chief invigilator announces that the test has ended. Anyone caught breaking any examination rules will be referred to the Registrar's Office to face disciplinary action.**

11. The answer to each question must be shaded properly with 2B pencils (the whole circle corresponding to the answer must be **COMPLETELY** shaded and must be shaded **dark enough** so that the computer can detect it) and if you change your answer later, you must make sure that the old answer is properly erased. Otherwise the computer will mark it wrong and no appeal on this will be entertained.

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## **If you miss the Test**

12. Anyone misses the test without a valid MC or a written permission from the module coordinator will get a **zero** for the CA mark.

13. Anyone misses the test with a valid MC or a written permission from the coordinator must take a make-up test on Saturday, 16 October 2010, 1-2pm at S17-06-11. Please e-mail the coordinator (Fred Leung) at [matfredl@nus.edu.sg](mailto:matfredl@nus.edu.sg) to inform him of your situation so that he will know the number of students taking the make up test. Please bring along your valid MC or your written permission from the coordinator for admission to the make-up test on that day.

**Note:** Students who have taken the main test but are not satisfied with their scores are **NOT** allowed to take the make up test regardless of having valid MC or not.

14. As students taking the make-up test will have more time for their preparation, please note that the make-up test will be **proportionally more difficult** than the mid term test. The make-up test will cover the same material as the mid term test. **The make up test questions are not multiple choice. The students will need to find the answer to each question and then write the answer in a box following the question but they do not need to show the details of their solutions.**

15. Anyone misses both the mid term and the make-up tests but have valid excuses for both dates will have to take a second make-up test to be arranged at a later time. The second make-up test will have all essay type questions and the students must show details of their solutions to each question. The second make-up test will cover the same material as the mid term test but will have more **challenging** questions and **short proofs** may be required.

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### After the Test

16. Answers to the mid term test will be posted on the IVLE website on 30 September.

17. Your answer sheets will be graded by a computer. It is **VERY IMPORTANT** that you **shade your matriculation number correctly** on the answer sheet. If you fail to shade your matriculation number correctly on the answer sheet and we cannot find it later, you will get a **ZERO** for your CA.

18. We will post your results on the website after the computer has finished grading and recording the marks.

19. In our experience so far, the computer has not made any mistakes. However, we still had some students making mistakes in shading the answer sheet in the last semester.

The common mistakes that we have observed are: (a) shade the matriculation numbers wrongly or enter the NUSNET userid instead of the matriculation number; (b) shade only part of the circle but not the whole circle or the circle is not shaded dark enough; (c) shade two answers for the same question; (d) forget to shade the answer for some of the question; (e) claim to have gotten the correct answer but shaded the wrong circle on the answer sheet. Please be extra careful to avoid these and any other mistakes.

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## **Updates**

21. Please check the module website frequently for any updates or last minute changes to the information contained here.

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### **Attachments**

22. Please find attached to this document, the sample cover page of the test and the formulae list that will be included with the test for your reference. A sample answer sheet (Form CC1/10) is also attached for your reference.

2010/2011 SEMESTER 1 MID-TERM TEST

MA1505 MATHEMATICS I

29 September 2010

8:30pm to 9:30pm

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PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This test paper consists of **TEN (10)** multiple choice questions and comprises **Twelve (13)** printed pages.
2. Answer all 10 questions. 1 mark for each correct answer. No penalty for wrong answers. Full mark is 10.
3. All answers (Choices A, B, C, D, E) are to be submitted using the pink form (FORM CC1/10).
4. Use **only 2B pencils** for FORM CC1/10.
5. On FORM CC1/10 (section B for matric numbers starting with A, section C for others), **write your matriculation number** and **shade** the corresponding numbered circles **completely**. Your FORM CC1/10 will be graded by a computer and it will record a **ZERO** for your score if your matriculation number is not correct.
6. **Write your full name** in the blank space for module code in section A of FORM CC1/10.
7. Only circles for answers 1 to 10 are to be shaded.
8. For each answer, the circle corresponding to your choice should be **properly** and **completely** shaded. If you change your answer later, you must make sure that the original answer is properly erased.
9. For each answer, **do not shade more than one circle**. The answer for a question with more than one circle shaded will be marked wrong.
10. **Do not fold** FORM CC1/10.
11. Submit FORM CC1/10 before you leave the test hall.



## Formulae List

1. The Taylor series of  $f$  at  $a$  is

$$\sum_{k=0}^{\infty} \frac{f^{(k)}(a)}{k!} (x-a)^k = f(a) + f'(a)(x-a) + \dots$$

2.

SAMPLE

$$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}$$

3.

$$\sin x = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{(2n+1)!}$$

4.

$$\cos x = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}$$

5.

$$\ln(1+x) = \sum_{n=1}^{\infty} \frac{(-1)^{n-1} x^n}{n}$$

6.

$$\tan^{-1} x = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{2n+1}$$

Write your name here

## SECTION A

Module Code

Date \_\_\_\_\_

**DIRECTIONS FOR MARKING  
ANSWER SHEET**

1. Use **ONLY** a soft lead pencil.  
**DO NOT USE** ink or ballpoint pen.
2. Shade circles of your choice completely.  
Erase cleanly any answer you wish to change.
3. Make no stray marks on this answer sheet.

## EXAMPLES OF SHADING

**CORRECT**      **INCORRECT**



use section C  
if your matrix  
no. starts with  
U or NT or HT.

**SECTION B :**  
**MATRICATION NUMBER**  
for Matriculation from 2010  
onwards

[illegible]

**SECTION C :**  
**MATRICULATION NUMBER**  
for Matriculation up to 2009

U	0	0	0	0	0	0	A
NT	1	1	1	1	1	1	B
HT	2	2	2	2	2	2	E
	3	3	3	3	3	3	H
	4	4	4	4	4	4	J
	5	5	5	5	5	5	L
	6	6	6	6	6	6	M
	7	7	7	7	7	7	N
	8	8	8	8	8	8	R
	9	9	9	9	9	9	U
							W
							X
							Y

## SECTION D : ANSWERS

- Use This part for your answers

1 A B C D E	11 A B C D E	21 A B C D E	31 A B C D E	41 A B C D E
2 A B C D E	12 A B C D E	22 A B C D E	32 A B C D E	42 A B C D E
3 A B C D E	13 A B C D E	23 A B C D E	33 A B C D E	43 A B C D E
4 A B C D E	14 A B C D E	24 A B C D E	34 A B C D E	44 A B C D E
5 A B C D E	15 A B C D E	25 A B C D E	35 A B C D E	45 A B C D E
6 A B C D E	16 A B C D E	26 A B C D E	36 A B C D E	46 A B C D E
7 A B C D E	17 A B C D E	27 A B C D E	37 A B C D E	47 A B C D E
8 A B C D E	18 A B C D E	28 A B C D E	38 A B C D E	48 A B C D E
9 A B C D E	19 A B C D E	29 A B C D E	39 A B C D E	49 A B C D E
10 A B C D E	20 A B C D E	30 A B C D E	40 A B C D E	50 A B C D E
51 A B C D E	61 A B C D E	71 A B C D E	81 A B C D E	91 A B C D E
52 A B C D E	62 A B C D E	72 A B C D E	82 A B C D E	92 A B C D E
53 A B C D E	63 A B C D E	73 A B C D E	83 A B C D E	93 A B C D E
54 A B C D E	64 A B C D E	74 A B C D E	84 A B C D E	94 A B C D E
55 A B C D E	65 A B C D E	75 A B C D E	85 A B C D E	95 A B C D E
56 A B C D E	66 A B C D E	76 A B C D E	86 A B C D E	96 A B C D E
57 A B C D E	67 A B C D E	77 A B C D E	87 A B C D E	97 A B C D E
58 A B C D E	68 A B C D E	78 A B C D E	88 A B C D E	98 A B C D E
59 A B C D E	69 A B C D E	79 A B C D E	89 A B C D E	99 A B C D E
60 A B C D E	70 A B C D E	80 A B C D E	90 A B C D E	100 A B C D E