

King Fahd University of Petroleum & Minerals

Department of Mathematical Sciences

Math551 “Abstract Algebra”

Semester 072 (Spring 2008)

Dr. Jawad Y. Abuhlail

Second Take Home Exam (Due: 11.6.2008, 12:00 pm)

Remarks:

1. All questions are from the textbook “P. Grillet, *Abstract Algebra*, 2nd edition, Springer (2007)”.
2. Give *self-contained* proofs and arguments.

Solve 20 questions from the following list (including at least one from each section and at least 10 with “*”).

Section	Questions
VIII.4.	1*, 2*, 6, 8, (10, 11)*
VIII.5.	2, 4*, 5*, 8, 9*
VIII.6.	1, 3*, 5, 7, 8
VIII.8.	(2, 3), 6, 8*, 10, (11, 12)*, 13, 15*
IX.1.	1, 4*, 5*
IX.2.	1*, (2, 3), 4, 6*
IX.3.	(1, 2), 3*, 6*, 7, 8, 9, 11*
IX.5.	1*, 3, 5*, 8, 9*, 14, 17*, 21
IX.6.	1*, 3, 4*, 5*, 6, 7, 8, 9*, 11
X.1.	(1, 2), 4, (5, 6)*, (7, 8), (9, 10)*
X.3.	(2, 3)*, 4, (5, 6)*, 8, 9
X.4.	(1, 2 ¹)*, 3, 6, 7, 8, 9, 10*

¹Correction of misprint in the book: Show that every direct **product** of injective left R -modules is injective

Grades

#	Section	Question	Grade/8	#	Section	Question*	Grade/12
1.				11.			
2.				12.			
3.				13.			
4.				14.			
5.				15.			
6.				16.			
7.				17.			
8.				18.			
9.				19.			
10.				20.			
		Total				Total	