INTRODUCTION TO ECONOMICS

BUSINESS ADMINISTRATION DEGREE - YEAR 2016

PRACTICE SHEET 8

1. Consider the information given in the table below. Get the business cycle; identify peaks, troughs, expansions and contractions. Calculate the amplitude and length of each cycle.

Year	Real GDP
2000	5922
2001	6014
2002	6168
2003	6343
2004	6527
2005	6779
2006	6908
2007	6972
2008	7029
2009	7178
2010	7302
2011	7520
2012	7727
2013	7779
2014	7464
2015	7512
2016	7600

2. How are the following variables with respect to the business cycle? Are they procyclic, countercyclic or acyclic and leading, lagging or coincident.

   (a) SUV cars consumption.

   (b) To-go meals.

   (c) Unemployment.

   (d) Employment.

   (e) Tax collection.

   (f) Industrial Production Index (IPI).

   (g) Construction licenses.

3. Some data on the growth of a fictitious economy from 2006 to 2014 are given in the accompanying table:

Year	GDP in constant prices	Annual Real GDP growth rate	Phase of the cycle
2006	10000		
2007		0.8%	Trough
2010		3.5%	Peack
2011		3.0%	
2013		-0.3%	Trough
2014	11720		

Answer **True** or **False** and justify your answer to the following questions:

(a) Between 2006 and 2014 there is a cycle that lasts 8 years.

(b) In year 2014 a recession begins.

(c) The long-run trend growth rate from 2006 to 2014 is 2%.

4. Some data of the business cycle for an economy are shown in the accompanying table for years 2006 and 2007:

Year	Real output GDP	Annual Real GDP growth rate	Long-run trend growth rate	Value of the business cycle
2006	114.50	4%	-	1.0%
2007	-	-	-	-0.5%

(a) Fill in the table.

(b) Assuming the period for the calculation of the long-run trend g.r. is 10 years and begins in 2006, what will be the final year and the real output for this year?

5. (KWG) Over the next 100 years, real GDP per capita in Goodland is expected to grow at an average annual rate of 2.0%. In Badland, however, growth is expected to be somewhat slower, at an average annual growth rate of 1.5%. If both countries have a real GDP per capita today of $20,000, how will their real GDP per capita differ in 100 years?

6. (KWG) The accompanying table shows data for real GDP per capita (in 2005 U.S. dollars) in different countries.

	1950		2009	
Country	Real GDP p.c.	% of US GDP p.c.	Real GDP p.c.	% of US GDP p.c.
France	7112	-	30821	-
Japan	3118	-	31958	-
UK	10401	-	33386	-
Argentina	6243	-	11961	-
Ghana	603	-	1239	-
South Korea	1782	-	25029	-
US	13183	-	41102	-

Complete the table. Have some countries converged economically? Which ones?

7. (KWG) The accompanying table provides approximate statistics on per capita income levels and growth rates for regions defined by income levels. According to the Rule of 70, starting in 2010 the high-income countries are projected to double their per capita GDP in approximately 78 years, in 2088. Throughout this question, assume constant growth rates for each of the regions that are equal to their average value between 2000 and 2010.

Region	Real GDP per capita (2010)	Avg. annual real GDP p.c. growth rate (2000-2010)
High-income countries	38293	0.9%
Middle-income countries	3980	4.8%
Low-income countries	507	3.0%

   (a) Calculate the ratio of per capita GDP in 2010 of the following: (i) Middle-income to high-income countries; (ii) Low-income to high-income countries; (iii) Low-income to middle-income countries.

   (b) Calculate the number of years it will take the lowincome and middle-income countries to double their per capita GDP.

   (c) Calculate the per capita GDP of each of the regions in 2088. (Hint: How many times does their per capita GDP double in 78 years, the number of years from 2010 to 2088?)

   (d) Repeat part a with the projected per capita GDP in 2088.

   (e) Compare your answers to parts a and d. Comment on the change in economic inequality between the regions.