UNIVERSITY OF JOHANNESBURG

DEPARTMENT OF ECONOMICS

NOVEMBER EXAMINATION 2015

Course : Economics 2D
Examiner : Mr KPR Morema
Moderators : Ms M Wilson
Time : 120 minute
Marks : **150**

Instructions:

1. Answer all the questions on the paper
2. This paper consists of 14 pages
3. Please round off to 4 decimal places

Initials & Surname : _____

Student number : _____

QUESTION	TOTAL	MARK	AUDITED MARK
SECTION A			
1	20		
2	35		
3	20		
SECTION B			
1	20		
2	30		
3	25		
Total	150		

SECTION A – ECONOMIC INDICATORS [75]

Question 1 (20)

State whether the following statements are true or false. If a statement is false, explain why you say so.

a. The term gross geographical product refers to the total value of production of the different provinces. (2)

_____

_____

b. Intermediary products are included in the calculation of gross domestic product. (2)

_____

_____

c. Unemployed persons are not included in the calculation of the economically active population. (2)

_____

_____

d. The Labour Force Survey is a published every quarter. (2).

_____

_____

e. The base period of an index should be relatively recent because as many as possible of the index components have to be included in both the current and base period. (2)

_____

_____

f. The new balance of payments consists of 4 sub-accounts. (2)

_____

_____

g. VAT is excluded in the core basket of the CPI. (2)

_____

_____

h. All the items in the balance of payments are recorded in nominal terms. (2)

_____

_____

i. A simpler version of the absolute purchasing power parity is the Big Mac Index. (2)

_____
_____

j. When less of one currency is required than before to purchase one unit of another currency, the first currency has depreciated against the second currency. (2)

_____

_____

Question 2 (35)

Consider the tables in Appendix A and answer the following questions:

a. What is the gross value added at factor cost for 2006? (3)

_____
_____
_____
_____

b. What is the value of net operating surplus for 2006? (3)

_____
_____
_____
_____

c. Name the components of net operating surplus. (3)

_____
_____
_____
_____

d. What is the value of gross national income at market prices for 2006? (3)

e. What is the value of the current GDP at market prices for 2006 quarter 4? (2)

f. Deflate the current GDP at market prices for 2006 quarter 3 and 4 to obtain the constant GDP by making use of the CPI. (4)

g. Calculate the annual rate of growth in real GDP between the third and fourth quarter of 2006. (3)

h. Calculate the expanded unemployment rate for September 2006. (3)

i. Calculate the labour force participation rate for September 2006. (3)

j. Calculate the inflation rate for 2006 quarter 4 by using quarter on previous quarter at an annual rate. (3)

k. Calculate the terms of trade for 2006 quarter 1 and 4. What does the change (if any) between quarter 1 and quarter 4 mean? (3)

Question 3 (20)

Answer the following questions:

a. What is the real effective exchange rate? (3)

a. What is the difference between monetary and non-monetary gold? (4)

b. Name the 5 problems that are often associated with price indices. (5)

c. Define the balance of payments. (3)

d. The economically active population of a country depends on several factors. Name 5 of them. (5)

SECTION B – ANALYSIS OF ECONOMIC DATA [75]

Question 1 (20)

State whether the following statements are true or false. If a statement is false, explain why you say so.

a. With panel data the ordering of the data does not matter. (2)

_____

_____

b. The correlation between any variable and itself is equal to zero. (2)

_____

_____

c. Correlation and sound economic theory can suggest causality between two variables. (2)

_____

_____

d. The residual in regression analysis is defined as the distance between a particular data point and the true regression line. (2)

_____

_____

e. The linear regression model will always be only an approximation of the true relationship between two variables. (2)

_____

_____

f. Having a large spread of values for the explanatory variable is a desirable property in regression analysis. (2)

_____

_____

g. If important explanatory variables are omitted from a regression the estimated coefficients can be misleading. (2)

_____

_____

h. Multicollinearity occurs when the dependent variable is highly correlated with the independent variables. (2)

_____

_____

i. A regression involving only dummy explanatory variables implicitly classifies the observations into various groups. (2)

_____

_____

j. A regression involving dummy, non-dummy and interaction explanatory variables implicitly classifies the observations into groups and says that each group will have regression line with a different intercept. (2)

.

_____

_____

Question 2 (30)

Consider the tables in Appendix B and consider the following:

Retail trade (Retail) is dependent on various factors. In order to investigate this relationship data was collected for the following variables:

- PDI – Personal disposable income
- PPI – Production price index Prime overdraft rate (%)
- Dummy – Dummy variable included for the Christmas season

Answer the following questions:

a. Write down the regression model. (2)

_____

_____

_____

b. Interpret the coefficients of the model. (3)

_____

_____

_____

_____

_____

_____

_____

_____

c. Does the model make economic sense? Explain. (6)

_____

_____

_____

_____

_____

_____

_____

_____

d. Are the coefficients of the independent variables statistically significant? Explain by using two appropriate tests for each. (6)

e. Is this a good model? Explain and interpret by using two measures. (4)

f. By looking at the **regression** do you suspect multicollinearity? Why or why not? (2)

g. By looking at the **correlation matrix** do you suspect multicollinearity? Why? Report all the relevant statistics. (3)

h. Write down the regression model in the absence of the Christmas season. (2)

_____

_____

_____

i. Write down the regression model in the presence of Christmas season. (2)

_____

_____

_____

Question 3 (25)

Answer the following questions:

a. Name 5 properties of R^2. (5)

_____

_____

_____

_____

_____

_____

_____

b. Name 3 factors that influence the accuracy of estimates in a regression model. (3)

_____

_____

_____

_____

_____

c. Define a null hypothesis. (3)

_____

_____

_____

_____

d. What is meant by omitted variable bias in regression analysis? (3)

_____

_____

_____

_____

e. Why would we want to use dummy variables in a regression? Name 3 reasons. (3)

_____

_____

_____

_____

_____

_____

f. Distinguish between an error and a residual in regression analysis. (4)

_____

_____

_____

_____

_____

g. Distinguish between panel data and cross-sectional data. (4)

_____

_____

_____

_____

_____

APPENDIX A

- R **millions** at **current** prices

	2006Q1	2006Q2	2006Q3	2006Q4	2006
GDP at market prices	403542	417099	448757		1727478
Primary income from the rest of the world					40234
Compensation of employees					741466
Other taxes on production					35459
Taxes on products					204129
Subsidies on products					6653
Other subsidies on production					5076
Primary income to the rest of the world					75990
Consumption of fixed capital					218091
Gross value added at basic prices					1530002
CPI	130.77	132.33	135.53	137.17	
Import price index	120.8	127.8	126.2	127.9	
Export price index	136.7	138.0	136.3	134.0	

Labour levels in **thousands**

Labour market variable	Estimate for September 2006
Employed	12800
Unemployed (Official definition)	4391
Labour force	17191
Not in the labour force	12815
Population of working age	30009
Discouraged work-seekers	3217

APPENDIX B

The regression results with Retail trade the dependent variable is:

	Coefficients	Standard Error	*t-Stat*	p-value	Lower 95%	Upper 95%
Intercept	52023.76788	3755.384509	13.85	1.42E-14	44354.25	59693.29
Dummy	11154.45324	853.5553002	13.07	6.44E-14	9411.26	12897.65
PDI	0.286603536	0.026212789	10.93	5.50E-12	0.23	0.34
PPI	-412.6817991	69.71964103	-5.92	1.75E-06	-555.07	-270.30

Regression Statistics	
R^2	0.94
Adjusted R^2	0.93
F-stat	157.38
Significance F	1.92E-18

Correlation Matrix				
	Retail	***Dummy***	***PDI***	***PPI***
Retail	1			
Dummy	0.52	1		
PDI	0.74	-0.06	1	
PPI	0.64	-0.04	0.95	1