PG/IIIS/ECO-301(A+B)/19

M.A/M.Sc 3rd Semester Examination, 2019

ECONOMICS

PAPER – ECO-301(A + B)

Full Marks : 40

Time : 2 hours

Answer **all** questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

ECO-301A

GROUP—A

1. Answer any *two* questions : 2 × 2

   (*a*) Distinguish between model specification error and model mis-specification error.

(*b*) Explain the Asymptotic Efficiency property in connection with large sample.

(*c*) Explain the concept of enhancement-synergism in linear multiple regression model.

(*d*) What is meant by Partition of R-square ?

2. Answer any *two* questions : 4×2

(*a*) Explain in detail the various consequences of model specification errors.

(*b*) Write a note on the limitations of DW Test. What correction do you suggest ?

(*c*) What is the significance of the assumption that the regressors are non-stochastic ?

(*d*) What are the consequences of dropping a relevant regressor from a linear multiple regression model ?

3. Answer any *one* question : 8×1

(*a*) Explain the Breksch-Pagan-Godfrey test and Spearman's Rank correlation test of Heteroscedasticity.

(*b*) Regression of fluctuation of service sector output of India around the trend growth path(Y) in the period from 1950-51 to 2013-14 on the explanatory variables Land (arable) Man ratio (X1) and Per Capita Industrial Production (X2) gives the following results :

	Coefficients	t-Stat	P-value
Intercept	–1.1426	–29.8186	6.08E-34
X1	0.2989	28.342	7.02E-33
X2	0.1123	30.1586	3.52E-34

R-Square	Adj R square	F	Sig-F
0.9484	0.9464	468.7891	1.48E-33

However, simple regression of Y on X1 and that of Y on X2 give the following results :

	Coefficients	t-Stat	P-value
Intercept	–0.0735	–1.1758	0.245
X1	0.0298	1.2319	0.2235

R-Square	Adj R square	F	Sig-F
0.0284	*0.0097*	1.5177	0.2235

and

	Coefficients	t-Stat	P-value
Intercept	−0.0755	−2.1806	0.0339
X2	0.0203	2.3895	0.0206

R-Square	Adj R square	F	Sig-F
0.1007	0.083	5.7097	0.0206

Finally, regression of X1 on X2 gives the following results :

	Coefficients	t-Stat	P-value
Intercept	3.5457	32.2847	4.47E-36
X2	−0.2989	−11.4522	7.84E-16

R-Square	Adj R square	F	Sig-F
0.7161	0.7106	131.1533	7.84E-16

Write a brief note on the relative importance of the two explanatory variables.

GROUP–B

4. Answer any *two* questions from the following : 2 × 2

(*a*) Distinguish between joint density function and likelihood function.

(*b*) Give an example showing interaction effect.

(*c*) What do you mean by asymptotic unbiasedness ?

(*d*) What are the different assumptions of a *k*-variable Classical Linear Regression Model (CLRM) ?

5. Answer any *two* questions from the following : 4 × 2

(*a*) Derive the maximum likelihood estimators of the parameters in a 2 variable regression model (CLRM).

(*b*) Show that the maximum likelihood estimator of O^2 is a biased estimator of O^2 in case of a *k*-variable CLRM.

(*c*) Check whether the restricted maximum likelihood estimator for β. vector in case of a *k*-variable CLRM is unbiased or not ?

(*d*) How do you test the presence of structural stability in the regression models ?

6. Answer any *one* question from the following : 8×1

(*a*) What do you mean by dummy variable ? In this context, explain the problem of dummy variable trap ? $3 + 5$

(*b*) Discuss the dummy variable approach to detect the source of instability in the regression model. In what respect it is advantageous over the chow test ? $6 + 2$

ECO-301B

GROUP–A

1. Answer any *two* questions : 2×2

(*a*) Mention the major characteristics of capitalist agriculture.

(*b*) Write down your understanding of the term 'peasants'.

(*c*) Differentiate between allocative efficiency and technical efficiency.

(*d*) What do you mean by unequal exchange ?

2. Answer any *two* questions : 4 × 2

(*a*) Explain the different types of uncertainty a peasant usually faces.

(*b*) What are the important implications of commercialisation of traditional agriculture for the purpose of policy making ?

(*c*) Explain the concept of own rate of interest.

(*d*) Role of women is declining with the adoption of modern agricultural technology in India—Discuss.

3. Answer any *one* question : 8 × 1

(*a*) Critically discuss the neo-classical framework for analysing the profit maximising behaviour of a peasant.

(*b*) Explain under the neo-classical framework, how risk aversion leads to inefficiency. What are the important propositions of the model ?

GROUP–B

4. Answer any *two* questions : 2 × 2

(*a*) What is contract farming ?

(*b*) Write two shortcomings of weather-based insurance.

(*c*) Differentiate the share-cropper as a distinct class from the other type of peasants.

(*d*) What are the three pillars of A-o-A ?

5. Answer any *two* questions : 4 × 2

(*a*) Discuss the Pradhan Mantri Fasal Bima Yojana.

(*b*) Explain the importance of reservation utility for the analysis of market equilibrium of an interlinked transaction.

(*c*) Differentiate between blue, green and amber box subsidy.

(*d*) Briefly state the relationship between a nation's food security and trade liberalisation under the WTO regime.

6. Answer any *one* question : 8 × 1

(*a*) What do you mean by cost-per-worker in an interlinked transaction ? Write and explain the objective function of a landlord engaged in an interlinked transaction. What are the major difference in the profit maximising conditions of this landlord from that of a conventional one ? 3 + 2 + 3

(*b*) Show the problems of a share-cropping arrangement from tenants and also from landlord's point of view. 8