

END TERM EXAMINATION

SECOND SEMESTER [BA(ECO)(HONS.)] APRIL - MAY 2019

Paper Code: BAECO-102

Subject: Principles of Macro Economics

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions including Q no.1 which is compulsory.
All questions carry equal marks.

Q1 Attempt any three of the following:-

- (a) Issues in National Income Measurement.
- (b) Monetary Transmission Mechanism.
- (c) Role of Central Bank in determination of Interest Rate.
- (d) Short note Modern Inflation Theory.
- (e) Economic issues related to foreign trade.

Q2 Explain the circular flow of income in a four sector economy.

Q3 Discuss the concept of balanced budget multiplier. Illustrate with mathematical derivation.

Q4 Examine and discuss the statement, "It is impossible to have all three of the following simultaneously: Fixed Foreign Exchange rate, Free Capital Movement and an independent monetary policy".

Q5 Discuss the Keynesian Consumption function and its determinants. Discuss the concepts of disposable income and marginal propensity to consume.

Q6 Critically examine the statement, "Inflation is always a matter of concern for economic growth." Discuss the role of central banks in managing inflation in an economy.

Q7 Discuss the determinants of demand and supply of money and the role in determining the equilibrium rate of interest.

Q8 Elucidate the different tools of macroeconomic stabilization and growth policies with the government.



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SECOND SEMESTER [BA(ECO)(HONS.)] APRIL - MAY 2019

Paper Code: BAECO-104

Subject: Statistical Method-II

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions. Use of scientific calculators is allowed.

- Q1 (a) A and B play a game in which they alternately toss a pair of dice. The one who is first to get a total of 7 wins the game. Find the probability that
- (i) The one who tosses first will win the game. (7)
 - (ii) The one who tosses second will win the game. (3)
- (b) If at least one child in a family with two children is a boy what is the probability that both children are boys. (5)

Q2 The distribution function of a random variable X is given by

$$F(x) = \begin{cases} cx^3 & 0 \leq x < 3 \\ 1 & x \geq 3 \\ 0 & x < 0 \end{cases}$$

If $P(x=3)=0$, find

- (a) the constant c
- (b) the density function
- (c) $P(x>1)$
- (d) $P(1<x<2)$
- (e) $P(0<x<1)$

(15)

- Q3 (a) Find the probability of
- (i) 2 or more heads
 - (ii) fewer than 4 heads
- in a single toss of 6 pair coins. (5)

- (b) If 3% of the electric bulbs manufactured by a company are defective, find the probability that in a sample of 100 bulbs (5)

- (i) 0
 - (ii) 5
- bulbs will be defective

- (c) Find the probability that a student can guess correctly the answers to
- (i) 12 or more out of 20.
 - (ii) 24 or more out of 40.
- Questions on a true-false examinations. (5)

- Q4 (a) Find (i) the third and (ii) the fourth moment about the mean of a uniform distribution. (9)
- (b) Determine the coefficient of (i) skewness and (ii) kurtosis of a uniform distribution. (6)



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BAECO-104

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Q5 Prove that

$$E(s^2) = \frac{n-1}{n} \sigma^2$$

where s^2 is the sample variance for a random sample of size n , and σ^2 is the variance of the population. (15)

Q6

Find the probability that out of the next 200 children born (a) less than 40% will be boys, (b) between 43% and 57% will be girls, (c) more than 54% will be boys. Assume equal probabilities for births of boys and girls. (15)

Q7

(a) Use the frequency distribution of heights as below; to find the mean height of the 100 male students at XYZ University (4)

Height (inches)	Frequency
60-62	5
63-65	18
66-68	42
69-71	27
72-74	8

$$200 \times \frac{1}{2} \times \frac{1}{2} = 20$$

$$np \quad n \times \frac{1}{2} \quad 200 \times \frac{1}{2} = 100$$

(b) Suppose the data above of the heights of 100 male students at XYZ represents a random sample of the heights of all 1546 male students at the university. Determine unbiased and efficient estimates of (i) the true mean, (ii) the true variance. (6+5)

Q8

(a) Five measurements of the reaction time of an individual to certain stimuli was recorded as 0.28, 0.30, 0.27, 0.33, 0.31 seconds. Find (i) 95% and (ii) 99% confidence limits for the actual mean reaction time. (7)
 (b) Suppose that n observations, X_1, \dots, X_n , are made from a Poisson distribution with unknown parameters λ . Find the maximum likelihood estimate of λ . (8)

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Write short notes on **any two** of the following:-
 (a) Types of errors
 (b) Null and alternative hypothesis
 (c) List square estimation.

(7.5x2=15)

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Write short notes on **any two** of the following:-
 (a) Systematic Sampling
 (b) Method of moments
 (c) Central limit theorem

(7.5x2=15)

$$\frac{d\epsilon_i}{d\lambda}$$

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SECOND SEMESTER [BA(ECO)(HONS.)] APRIL - MAY 2019

Paper Code: BAECO-106

Time: 3 Hours

Subject: Mathematics of Economics-II

Maximum Marks: 75

Note: Attempt any five questions.

- Q1 (a) Manufacturing and marketing costs 'c' are related to the number of items 'x' by the relation $\frac{dc}{dx} = b + b_1x - ac$ (a, b₁, d being constants). Find 'c' as a function of 'x' if c=0 when x=0. (7)

- (b) The change in the cost 'c' of ordering and holding as quantity 'x' changes is given by $\frac{dc}{dx} + \frac{c}{x} = a$, 'a' being constant. Find 'c' as a function of 'x' if c=c₀ at x=x₀. (8)

- Q2 The relationship between revenue R and quantity demanded 'x' is such that $\frac{dR}{dx} = \frac{2R^3 - x^3}{3xR^2}$. Show that (i) the relationship between R & x is given by $R^3 = Kx^2 - x^3$ (ii) K=10 if it is given that R=0 when x=10 and then $R^3 = 10x^2 - x^3$. (15)

- Q3 (a) Explain concept of function with example. (5)
(b) Write short note on the following:-
(i) Inverse function with example. (5)
(ii) Composite function with example. (5)

- Q4 (a) If elasticity of demand curve $q = f(p)$ is given by $q = p^\alpha e^{-\beta p + r}$, where α, β, r being an arbitrary constant. Find $\frac{dq}{dp}, \frac{d^2q}{dp^2}$. (8)
(b) Prove that $f(x) = |x|$ is a continuous function. (7)

- Q5 (a) If utility function 'u' is a function x and y given by $u = (x+h)^a (y+k)^b$ where a, b, h, k being constants. Find $\frac{\partial u}{\partial x}, \frac{\partial^2 u}{\partial y^2}$. (8)
(b) If $u = \frac{x^3 + y^3}{x^2 - y^2}$, then show that $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = u$ (7)

- Q6 (a) If an individual preference scale for two goods x and y is related by the equation $R = \frac{x-a}{y-b}$. Then, find $\frac{\partial R}{\partial x}, \frac{\partial R}{\partial y}$. (7)
(b) Write short notes on following with its application to economics-
(i) Implicit function theorem (4)
(ii) Homogeneous and homothetic functions (4)

- Q7 (a) Examine the function $f(x) = x^3 - 3x + 3$, $x \in R$ for maximum and minimum values. (8)
(b) Find the intervals in which $y = (x+1)^{1/3}$ are concave upward or concave downward. (7)

- Q8 Using Lagrange's method to optimize the function $z = 2x_1^2 - 3x_2^2 + 18x_2$, subject to constrained $2x_1 + x_2 = 8$ and $x_1, x_2 \geq 0$. (15)



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SECOND SEMESTER [BA(ECO)(HONS.)] APRIL – MAY 2019

Paper Code: BAECO-108

Subject: Business English-II

Time: 3 Hours

Maximum Marks: 75

Note: Attempt all questions as directed. Internal choice is indicated.

Q1 Write short note on the following about 200 words each: (5x3=15)

(a) Capitalism

OR

Socialism

(b) Uncle Ben's character in *Death of a Salesman*

OR

Willy's character in *Death of a Salesman*

(c) Globalisation

OR

'Developmentism' and 'Development'.

Q2 What is your understanding of the economic concepts you read in *The Worldly Philosophers*. (15)

OR

"The human animal ... is distinguished above all by his self-consciousness. Hence every age breeds its philosophers, apologists, critics, and reformers." Critically discuss the statement from the chapter "The Economic Revolution" in *The Worldly Philosophers*.

Q3 Discuss *Death of a Salesman* as a critique of the 'American Dreams'. (15)

OR

Don't you think **Death of a Salesman** makes unnecessary noise about the failure of undeserving people? Discuss.

Q4 Explain the concept of equality as discussed in Amartya Sen's *Inequality Reexamined*. (15)

OR

Discuss Amartya Sen's idea that society should promote equality in the space of capabilities.

Q5 "The societies which do not keep pace with time, remain stagnant." Discuss the statement with reference to Tofler's *Future Shock*. (15)

OR

Describe Tofler's idea of Post-industrialist society.



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