Total Pages : 60

ENTRANCE EXAMINATION, 2012

M.Phil./Ph.D. ECONOMIC STUDIES AND PLANNING

[Field of Study Code : ECOP (136)]

Time Allowed : 3 hours

Maximum Marks : 70

INSTRUCTIONS FOR CANDIDATES

Candidates must read carefully the following instructions before attempting the Question Paper :

(i) Write your Name and Registration Number in the space provided for the purpose on the top of this Question Paper and in the Answer Sheet.

(ii) **Please darken the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

(iii) All questions are compulsory.

(iv) Answer all the 70 questions in the Answer Sheet provided for the purpose by darkening the correct choice, i.e., (a) or (b) or (c) or (d) with BALLPOINT PEN only against the corresponding circle. Any overwriting or alteration will be treated as wrong answer.

(v) Each correct answer carries 1 mark. **There will be negative marking and 1/4 mark will be deducted for each wrong answer.**

(vi) Answer written by the candidates inside the Question Paper will not be evaluated.

(vii) Pages at the end have been provided for Rough Work.

(viii) Return the Question Paper and Answer Sheet to the Invigilator at the end of the Entrance Examination. **DO NOT FOLD THE ANSWER SHEET.**

INSTRUCTIONS FOR MARKING ANSWERS

1. Use only Blue/Black Ballpoint Pen (do not use pencil) to darken the appropriate Circle.
2. Please darken the whole Circle.
3. Darken ONLY ONE CIRCLE for each question as shown in example below :

Wrong	Wrong	Wrong	Wrong	Correct
● ⓑ © ●	∅ ⓑ © ⓓ	∅ ⓑ © ∅	⊙ ⓑ © ●	ⓐ ⓑ © ●

4. Once marked, no change in the answer is allowed.
5. Please do not make any stray marks on the Answer Sheet.
6. Do rough work only on the pages provided for this purpose.
7. Mark your answer only in the appropriate space against the number corresponding to the question.
8. **Ensure that you have darkened the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

1. The sampling distribution refers to

    (a)   the distribution of the various sample sizes which might be used in a given study

    (b)   the probability distribution of a statistic

    (c)   the distribution of the values of the items in the population

    (d)   the distribution of the values of the items actually selected in a given sample

2. A student discovers that his grade on a recent test was at the 72nd percentile. If 90 students wrote the test, then approximately how many students received a higher grade than he did?

    (a)   65

    (b)   25

    (c)   72

    (d)   71

3. The chances that you will be booked for illegal parking in the central market are $1/3$. During the last nine days, you have illegally parked every day and have not been booked. On the tenth day, you again decide to park illegally. The chances that you will be caught are

    (a)   greater than $1/3$

    (b)   less than $1/3$

    (c)   equal to $1/3$

    (d)   equal to $9/10$

4. Beena's average score after 8 class tests is 84. In her first seven class tests, Beena's average score was 85. In her last class test, Beena scored

    (a)   82

    (b)   81

    (c)   84

    (d)   77

For the next four questions, Nos. **5** to **8**, consider the following :

Y and X are random variables. Assume that the data generating process is as follows :

$Y = \alpha + \beta X + u$, where (i) α and β are parameters and (ii) u is an error term with mean zero that is uncorrelated with X.

Your dataset consists of the following 10 observations :

Y	2	4	6	−1	4	1	4	4	4	2
X	3	3	3	3	3	5	5	5	5	5

Given the above dataset, you estimate α and β by ordinary least squares. Let $\hat{\alpha}$ and $\hat{\beta}$ denote respectively the estimates of α and β.

5. The value of $\hat{\beta}$ is equal to

    (a)   4

    (b)   1

    (c)   2

    (d)   None of the above

6. The value of $\hat{\alpha}$ is equal to

    (a)   3

    (b)   5

    (c)   2

    (d)   None of the above

7. The coefficient of determination (i.e., R^2) is equal to

    (a)   1

    (b)   0

    (c)   1/2

    (d)   2/3

8. The expected value of Y given $X = 7$ is equal to

    (a)   7

    (b)   14

    (c)   3

    (d)   0

9. The set of all subsets of the set of all subsets of the empty set is

   (a) the empty set

   (b) a set having a single element

   (c) a set having two elements

   (d) None of the above

10. The condition used to assess the likely impact of a currency devaluation on the balance of trade of a country is

    (a) the Hawkins-Simon condition

    (b) the Modigliani-Miller condition

    (c) the Arrow-Debreu condition

    (d) the Marshall-Lerner condition

11. The capital adequacy ratio for banks included in the Basel Guidelines is defined as

    (a) the ratio of a bank's equity to its total lending

    (b) the ratio of a bank's equity to its total deposits

    (c) the ratio of equity and other specified forms of capital to the total assets of the bank

    (d) the ratio of equity and other specified forms of capital to the sum of assets weighted by an index of risk

For the next five questions, Nos. **12** to **16**, consider the following :

Consider the Solow growth model with no technical progress, a constant rate of depreciation of capital d, a constant rate of growth of the labour force n and an intensive production function $y(t) = A \ln [1 + k(t)]$, where A is a positive constant, $y(t)$ is output per unit of labour at time t and $k(t)$ is capital per unit of labour at time t. Suppose we replace the assumption of a constant saving rate in the economy by the assumption that workers earn only wage income and consume their entire income while the remaining income accrues to non-workers who save their entire income. Assuming that factor rentals are equal to respective marginal products, answer the following questions :

12. Suppose the parameters n and d have the values $0 \cdot 02$ and $0 \cdot 05$ respectively. Which of the following is a necessary and sufficient condition for the existence of a steady state growth path (with positive output) in the model?

    (a) $A > 0 \cdot 07$

    (b) $A / (1 + A) > 0 \cdot 07$

    (c) $A / (1 + A) > 0 \cdot 03$

    (d) $\ln [A / (A - 1)] > 0 \cdot 07$

13. Suppose the parameters n and d have the values $0 \cdot 01$ and $0 \cdot 01$ respectively. Assuming that a steady state growth path exists, which of the following is a necessary condition for it to be unique and stable?

    (a) $A / (1 + A) > 0 \cdot 02$

    (b) $A / (1 + A) > 0 \cdot 2$

    (c) $\ln [A / (A - 1)] > 0 \cdot 02$

    (d) None of the above

14. Suppose Economy 1 and Economy 2 have identical values of n and d but Economy 1 has a higher value of A. Suppose in both economies there exists a unique and stable steady state growth path. Which economy has a higher rate of interest along the steady state growth path?

    (a) Both economies have the same steady state rate of interest

    (b) Economy 2

    (c) Economy 1

    (d) More information is necessary to answer the question

15. Suppose Economy 1 and Economy 2 have identical values of A and d but Economy 1 has a higher value of n. Suppose in both economies there exists a unique and stable steady state growth path. Which economy has a higher rate of interest along the steady state growth path?

    (a) Both economies have the same steady state rate of interest

    (b) Economy 2

    (c) Economy 1

    (d) More information is necessary to answer the question

16. Suppose Economy 1 and Economy 2 have identical values of A and n, but Economy 1 has a higher value of d. Suppose that in both economies there exists a unique and stable steady state growth path. Which economy has a higher rate of interest along the steady state growth path?

    (a) Both economies have the same steady state rate of interest

    (b) Economy 2

    (c) Economy 1

    (d) More information is necessary to answer the question

17. Consider the following optimization problems :

    (i) Maximize $f(x, y)$ subject to $x - 2y = 1$ and $3x + 2y = 11$

    (ii) Minimize $f(x, y)$ subject to $x - 2y = 1$ and $3x + 2y = 11$

    Which of the following is true?

    (a) The two problems have the same solution

    (b) The solutions to the two problems are different

    (c) Neither of the problems has a solution

    (d) Nothing can be said about the solutions to the problems unless the objective function is completely specified

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18. In a garden, there are three kinds of roses—red, yellow and white. No matter which 9 roses are selected at least 2 of them are white; and no matter which 10 roses are selected at least 2 of them are yellow; and no matter which 11 roses are selected at least 2 of them are red. How many roses are there in the garden?

(a) 11

(b) 12

(c) 13

(d) None of the above

19. Which of the following pairs of economies were India's two largest trading partners in each of the last three years (2008–09, 2009–10, 2010–11)?

(a) China, USA

(b) China, UAE

(c) UK, USA

(d) Germany, USA

For the next two questions, Nos. **20** and **21**, consider the following :

Suppose S be the set of all real numbers greater than 0 and less than or equal to 1. Let x be defined as any real number which is less than or equal to every number in the set S and let y be defined as any real number which is greater than or equal to any number in the set S.

20. The smallest value of y is

(a) 0

(b) 1

(c) greater than 1

(d) None of the above

21. Which of the following is true?

(a) The number which is equal to the maximum value of x belongs to the set S

(b) The number which is equal to the maximum value of x does not belong to the set S

(c) The maximum of x does not exist

(d) None of the above

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22. The equilibrium price of water guns in a perfectly competitive market is Rs 15. Each producer has an identical production function where Long Run Average Cost (LRAC) = Marginal Cost (MC) at a value of Rs 20. What will happen to supply and price of water guns in the long run?

(a) Each firm will continue producing where LRAC = MC; no entry or exit occurs

(b) Firms will leave the market, causing a decrease in supply until price equals Rs 20

(c) Firms will enter the market until supply increases to fill the extra demand

(d) Since equilibrium price is less than the minimum LRAC, the industry will shut down

23. Suppose in a set of 4 alternatives $\{x, y, z, w\}$, x and y are Pareto-optimal while z and w are not. From this we can infer that

(a) x is Pareto-superior to z

(b) x is Pareto-superior to w

(c) x is Pareto-superior to both z and w

(d) None of the above

For the next 3 questions, Nos. **24** to **26**, consider the following :

A student has taken 5 courses—Philosophy, Biology, Economics, Mathematics and Literature. She studies for these courses according to the following pattern :

Every week the student studies for exactly three courses.
If she studies Biology in a week, then she also studies Philosophy that week.
If she studies Economics in a particular week, then she does not study it in the following week.
In any particular week she studies not more than one of the subjects studied in the preceding week.

24. Which of the following is a possible sequence of combinations for the student in the two successive weeks?

(a) Week 1 : Philosophy, Biology, Economics; Week 2 : Biology, Mathematics, Literature

(b) Week 1 : Philosophy, Biology, Mathematics; Week 2 : Philosophy, Biology, Literature

(c) Week 1 : Philosophy, Mathematics, Literature; Week 2 : Philosophy, Biology, Economics

(d) Week 1 : Biology, Mathematics, Literature; Week 2 : Philosophy, Economics, Mathematics

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25. If the student studies Philosophy, Biology and Economics in the first week, which of the following combinations must be studied in the third week?

(a) Philosophy, Biology and Economics

(b) Philosophy, Biology and Mathematics

(c) Philosophy, Economics and Mathematics

(d) Economics, Mathematics and Literature

26. If the student studies Philosophy, Literature and Mathematics in the first week, which of the following combinations must be studied in the eleventh week?

(a) Philosophy, Literature and Mathematics

(b) Philosophy, Biology and Mathematics

(c) Philosophy, Economics and Mathematics

(d) Economics, Mathematics and Literature

27. Transfer pricing refers to

(a) tariffs that change the value of goods when they are traded

(b) the movement of factors that causes changes in price

(c) the over-pricing or under-pricing of goods in intra-firm cross-border trade of multinational companies

(d) the price at which skilled and professional workers are transferred by companies

28. Which of the following may be considered to be a central tenet of monetarism?

(a) It is difficult for the central bank to control the money supply in the economy

(b) A rise in the quantity of money leads to a proportionate rise in the price level in the short run

(c) The quantity of money does not affect real output in the long run

(d) The money demand function in the economy is unstable

29. Consider a two-person game where player 1 has two strategies, s and t; and player 2 has two strategies, u and v. Suppose it is given that (s, u) is a Nash equilibrium and (t, v) is not a Nash equilibrium. From this we can infer that

(a) at least one individual is better off in the outcome corresponding to (s, u) compared to the outcome corresponding to (t, v)

(b) both individuals are better off in the outcome corresponding to (s, u) compared to the outcome corresponding to (t, v)

(c) outcome corresponding to (t, v) is not Pareto-optimal

(d) None of the above

30. Consider an economy in which—

National income is Rs 1,00,000

Net output taxes and tariffs amount to Rs 8,000

Depreciation is Rs 2,000

Net income received from abroad is Rs 5,000

The GDP at market prices (in rupees) of this economy is

(a) 1,00,000

(b) 1,05,000

(c) 1,15,000

(d) 85,000

For the next two questions, Nos. **31** and **32**, consider the following :

The table below provides figures on gross fixed capital formation in current and constant (1999-2000) prices in India between 1993–94 and 1999–2000 :

Year	Current	Constant
1993–94	185402	272111
1994–95	224423	303156
1995–96	291174	352767
1996–97	318948	360490
1997–98	351713	382150
1998–99	398511	410407
1999–2000	456416	456416

31. By how much did the weighted average price of capital equipment rise between 1993–94 and 1999–2000?

(a) 41 per cent

(b) 47 per cent

(c) 52 per cent

.(d) 61 per cent

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32. The rate of increase of capital goods prices in the period after 1996–97 relative to the period before 1996–97

    (a)   was faster

    (b)   was slower

    (c)   was the same

    (d)   cannot be estimated from this table

For the next two questions, Nos. **33** and **34**, consider the following :

Let X and Z be subsets of the set of real numbers. A function f from X to Z is non-decreasing if and only if for any two elements x and y in X, x greater than y implies that $f(x)$ is greater than or equal to $f(y)$. A function f from X to Z is non-increasing if and only if for any two elements x and y in X, x greater than y implies that $f(x)$ is less than or equal to $f(y)$. A function f from X to Z is increasing if and only if for any two elements x and y in X, x greater than y implies that $f(x)$ is greater than $f(y)$.

33. Which of the following is true?

    (a)   A function cannot be non-decreasing as well as non-increasing

    (b)   A function is non-decreasing and non-increasing if and only if the range of the function is a singleton set

    (c)   A function is non-decreasing and non-increasing if there exist two distinct elements x and y in the domain which have the same functional value

    (d)   A function is non-decreasing and non-increasing only if there exist elements x, y, u and v in the domain such that $x > y$, $f(x) > f(y)$, $u > v$ and $f(u) < f(v)$

34. Which of the following is true?

    (a)   A non-decreasing function is also an increasing function

    (b)   An increasing function is also a non-decreasing function

    (c)   A non-decreasing function is not an increasing function

    (d)   An increasing function is not a non-decreasing function

35. The effective rate of protection afforded to an industry in any economy is computed by comparing

    (a)   value added at domestic prices with value added at border prices

    (b)   the rate of customs duty with the rate of domestic sales and excise duties

    (c)   the domestic price of output with its border price inclusive of import tariffs

    (d)   the domestic price of output with its border price excluding import tariffs

36. If the fiscal deficit in an economy increases

(a) this will necessarily lead to an increase in the current account deficit

(b) this will necessarily lead to an increase in inflation

(c) this will lead to an increase in the current account deficit if there is no change in the private savings-investment balance

(d) this has no bearing at all on the current account deficit

For the next five questions, Nos. **37** to **41**, consider the following text :

'The relation between agriculture and manufacturing industry offers the clearest and simplest case of balance needed for economic growth. In a country where the peasantry is incapable of producing a surplus of food above its own subsistence needs there is little or no incentive for industry to establish itself; there is not sufficient market for manufactured goods. Conversely agricultural improvements may be inhibited by lack of a market for farm products if the non-farm sector of the economy is backward or undeveloped. Each of the two sectors must try to move forward. If one remains passive the other is slowed down.

It is important in this connection to make a clear distinction between two concepts that are frequently confused : the marketable surplus and the investable surplus. The farm sector's marketable surplus of farm products determines the volume of non-farm employment, including manufacturing and other activities. It reflects simply the farm sector's demand for non-agricultural commodities. This is the concept that is relevant for the balanced growth principle.

An investable surplus of farm products represents an act of saving in the farm sector. It can conceivably result from a transfer of surplus labourers from the farms to capital construction projects : a food surplus may then arise through forced or voluntary saving in the farm sector for maintaining the workers engaged in capital projects. This is the concept relevant to the problem of capital supply. It is obvious that even a large marketable surplus of food need not involve any saving by the farmers. It presents a very helpful inducement, but does not in itself create the means, for capital investment outside the agricultural sector."

(From Ragnar Nurkse : Balanced and Unbalanced Growth)

37. In this passage, Nurkse argues that lack of a marketable surplus in agriculture inhibits industrial growth because

(a) it causes terms of trade to move against industry

(b) it does not provide a market for industrial goods

(c) agriculture depends upon industry to demand its products

(d) the peasantry is usually incapable of producing a surplus above its own subsistence needs

38. Why does Nurkse make a distinction between marketable surplus and investable surplus in agriculture? .

(a) Because without investable surplus there cannot be balanced growth

(b) Because ensuring enough marketable surplus is what is necessary for balanced growth

(c) Because a large marketable surplus creates an inducement for capital investment

(d) Because a food surplus always translates into saving by the farm sector

39. According to Nurkse, agriculture's marketable surplus determines the volume of non-agricultural employment because

(a) it represents the demand for non-agricultural goods and services

(b) employment has to be divided between farm and non-farm sectors according to capital intensity enabled by saving in the farm sector

(c) it enables the transfer of surplus labour from farms to capital construction projects

(d) otherwise there would be a lack of agricultural improvements

40. According to Nurkse, capital investment in non-agriculture

(a) is directly related to the level of development of agriculture

(b) is directly related to saving in the farm sector

(c) is the difference between the investable surplus and the marketable surplus in agriculture

(d) has no relationship to agriculture

41. This particular argument of Nurkse

(a) is relevant only in a closed economy

(b) is relevant in an open economy if there is a binding balance of payments constraint

(c) is relevant in an open economy if food can be easily imported and exported

(d) is always relevant in an open economy

42. X is a positive integer satisfying the following conditions :

(i) $50 \le X \le 79$

(ii) If X is a multiple of 2 then $50 \le X \le 59$

(iii) If X is not a multiple of 3 then $60 \le X \le 69$

(iv) If X is not a multiple of 4 then $70 \le X \le 79$

Therefore, we can infer that

(a) $X = 55$

(b) $X = 65$

(c) $X = 75$

(d)   None of the above

43. In terms of current annual human-caused Greenhouse gas emissions

(a)   the US is responsible for both the highest per capita and total emissions

(b)   the US is responsible for the highest total (but not per capita) emissions

(c)   China is responsible for highest per capita and total emissions

(d)   China is responsible for the highest total (but not per capita) emissions

44. The Ricardian Equivalence Theorem has implications for the effect of

(a)   changes in government expenditure on private consumption expenditure

(b)   changes in the rate of rent on the rate of profit

(c)   changes in the productivity of land on the rate of rent

(d)   capital accumulation on the terms of trade between agriculture and industry

45. Which of the following statements is necessarily true of an economy in a liquidity trap?

(a)   A rise in real balances has no positive effect on private consumption expenditure

(b)   A rise in government expenditure does not crowd out private investment expenditure

(c)   The supply of money is determined by the demand for money in the economy

(d)   The real rate of interest is a negative constant

14/34

For the next two questions, Nos. **46** and **47**, consider the following :

There are two individuals, 1 and 2. Each individual has an initial endowment of 30. There is a machine with the following property : Should individuals 1 and 2 provide respectively endowments x_1 and x_2 to the machine, the machine first computes the aggregate contribution, $x_1 + x_2$. This done, the machine responds by providing each of the individuals fresh endowments equal to $5(x_1 + x_2)^{1/2}$. Thus the utility of individual i from the contribution profile (x_1, x_2) is $U_i(x_1, x_2) = 5(x_1 + x_2)^{1/2} + (30 - x_i)$. Note also that the endowment given to the machine by individual i, x_i, cannot exceed her initial endowment of 30.

46. Which of the following contribution profiles (x_1, x_2) maximizes the sum of the utilities of the two individuals, $U_1(x_1, x_2) + U_2(x_1, x_2)$?

(a) (30, 30)

(b) (15, 15)

(c) (0, 25)

(d) None of the above

47. Suppose the individuals make their respective contributions, x_1 and x_2, simultaneously. This means that when an individual chooses her contribution level, she is unaware of the contribution level chosen by the other person. For this simultaneous-move game, which of the following contribution profiles constitute a Nash equilibrium?

(a) (15, 15)

(b) (0, 25)

(c) (25/8, 25/8)

(d) None of the above

48. In Keynes' theory of aggregate output and employment determination in the short run an increase in the equilibrium level of employment in the economy is always accompanied by

(a) a rise in the equilibrium value of the real wage rate

(b) a fall in the equilibrium value of the real wage rate

(c) a rise in the equilibrium value of the total wage bill

(d) a fall in the equilibrium value of the total wage bill

49. If you minimize the function $f(x) = x^3$, subject to the condition that $0 < x < 3$, what is the optimal value of x?

(a) 0·1

(b) 0

(c) 0·0001

(d) There is no such optimal value

15/20

For the next two questions, Nos. **50** and **51**, consider the following :

There is a monopolist who faces the demand function $D(p) = 2 / p$

50. If the monopolist can produce any non-negative amount of output and if the cost of production is zero for all levels of output, then the optimal monopoly output is

   (a) zero

   (b) one

   (c) any positive level of output

   (d) None of the above

51. If the monopolist can produce any non-negative amount of output and if the average cost of production is one for all levels of output, then the optimal monopoly output is

   (a) zero

   (b) one

   (c) any non-negative level of output

   (d) No such optimal output exists

52. Let f be a twice differentiable real-valued function defined on the set of all real numbers greater than or equal to 0 and less than or equal to 1. Suppose there is a unique x^* in the domain of f at which $f'(x^*) = 0$. Which of the following is true?

   (a) f attains the maximum at x^*

   (b) If $f''(x^*) > 0$ then f does not have a maximum value

   (c) If $f(x^*)$ is greater than $f(0)$ and $f(1)$ then f attains the maximum at x^*

   (d) f may not have a maximum value

53. Suppose both A and B are convex sets. Then which of the following is true?

   (a) A intersection B is always convex

   (b) A union B is always convex

   (c) Complement of A is always convex

   (d) None of the above

16/34

For the next two questions, Nos. **54** and **55**, consider the following :

Three teams, each consisting of two players, contested in a tournament. Players were named A, B, C, D, E and F. The teams belonged to countries X, Y and Z. The following information is given regarding the teams :

(i)   Players A, B and C all belonged to different teams

(ii) Players A and D belonged to different teams

(iii) Players B and F belonged to different teams

(iv) Player F belonged to country Z

(v)   Players A and F belonged to different teams

(vi) Player D belonged to country X

(vii) Neither player B nor C belonged to the winning team

54. Which country won the tournament?

(a) X

(b) Y

(c) Z

(d) Cannot be determined on the basis of given information

55. Who was B's teammate?

(a) D

(b) E

(c) F

(d) Cannot be determined on the basis of given information

56. Suppose A is a proper non-empty subset of the two-dimensional Euclidean space. Then which of the following is true?

(a) A is a compact set if and only if A is closed and bounded

(b) A is a compact set if and only if A is closed but not bounded

(c) A is a compact set if and only if A is bounded but not closed

(d) None of the above

57. Which of the following sectors contributes the most to gross domestic saving in the Indian economy?

(a) Household sector

(b) Private corporate sector

(c) Public sector

(d) None of the above

58. The variables gender, skin colour and eye colour derived from a sample of men and women in a workforce study are

(a) continuous variables

(b) non-ordered categorical variables

(c) ordered categorical variables

(d) interval scale variables

17/34

59. Suppose a consumer's preferences over commodities 1 and 2 can be represented by the utility function $U(x_1, x_2) = \min\{x_1, x_2\} + \max\{x_1, x_2\}$, where $x_1, x_2 \geq 0$. The prices of the two commodities are 1 and 2 respectively and the consumer's income is 150. Which of the following is true?

(a) At the optimum, the consumer should consume 150 units of commodity 1 and none of commodity 2

(b) At the optimum, the consumer should consume 75 units of commodity 2 and none of commodity 1

(c) At the optimum, the consumer should consume 50 units of commodity 1 and 50 units of commodity 2

(d) At the optimum, the consumer should spend equal amounts on the two commodities

60. The current account of the balance of payments of a country is equal to

(a) the difference between exports and imports of merchandise

(b) the difference between exports and imports of goods and services

(c) the sum of the balance of trade and capital inflows

(d) the difference between the increase in foreign reserves and capital inflows

61. Which of the following assumptions about the error term is not part of the so called 'classical assumptions' in the linear regression model?

(a) It has mean zero

(b) Its value for any observation is independent of its value for any other observation

(c) It has a standard normal distribution

(d) It is independent of the explanatory variables

62. One of the primary considerations of the Reserve Bank of India in determining the nature of monetary policy is the rate of inflation in the economy. During the years 2010-11 and 2011-12 the Reserve Bank of India has

(a) decreased the repo rate and increased the reverse repo rate

(b) decreased the reverse repo rate and increased the repo rate

(c) decreased both the repo rate and the reverse repo rate

(d) increased both the repo rate and the reverse repo rate

63. The European Union represents

(a) a monetary union

(b) a market in which goods and factors are supposed to move freely within the union

(c) a fiscal union

(d) only a political grouping

18/34

64. The least squares estimator of the slope coefficient is unbiased means that

    (a)   the estimated slope coefficient will always be equal to the true parameter value

    (b)   the estimated slope coefficient will get closer to the true parameter value as the size of the sample increases

    (c)   the estimated slope coefficient will be equal to the true parameter value if the sample is large

    (d)   if repeated samples of the same size are taken, on average the value of the estimated slope coefficient will be equal to the true parameter value

65. According to the latest large sample survey of the NSSO, between 2004–05 and 2009–10, total women's employment in the country (according to principal usual status)

    (a)   increased

    (b)   decreased

    (c)   remained the same

    (d)   increased in rural areas but decreased in urban areas

66. Which of the following is true for the equation $x - \ln x = 1$?

    (a) $x = 2$ and $x = 4$ are the two solutions of the equation

    (b) $x = 1$ is the unique solution of the equation

    (c)   The equation does not have any solution

    (d)   None of the above

For the next two questions, Nos. **67** and **68**, consider the following :

Consider the following two-player simultaneous move game. Player 1 has two pure strategies, viz., 'Up' and 'Down'. Player 2 also has two pure strategies, viz., 'Left' and 'Right'. The payoff matrix is provided below. In each box the first letter is the payoff to player 1 and the second letter is the payoff to player 2.

Player 1/Player 2	Left	Right
Up	(a, b)	(c, d)
Down	(e, f)	(g, h)

67. For Player 1, the strategy 'Up' strictly dominates strategy 'Down' if and only if

    (a) $a > e$ and $c > g$

    (b) $a > e$ and $c < g$

    (c) $a \geq e$ and $c \geq g$

    (d)   None of the above

68. The strategy profile (Down, Right) is a pure strategy Nash equilibrium, if and only if

(a) $g \geq e$ and $h \geq d$

(b) $g \geq c$ and $h \geq f$

(c) $g \geq e$, $g < c$, $h \geq d$ and $h \geq f$

(d) $g < e$ and $h < f$

69. In a world with only two goods, the slope of the Production Possibility Frontier (PPF) represents

(a) the added efficiency of producing one good compared to another

(b) the opportunity cost of a technological change

(c) how much more one prefers the good on the Y-axis to the good on the X-axis

(d) the opportunity cost of producing one good in terms of the other

70. Suppose that 100 people live in a village where an election is being held. 51 villagers support the conservative candidate (A) and 49 support the liberal candidate (B). The candidate getting the most votes wins. In case of a tie the winner is decided by the toss of a fair coin. A villager gets a payoff of +10 units of utility if her favourite candidate gets elected and a payoff of –10 units of utility if the opposition candidate gets elected. But voting is a nuisance that costs voters one unit of utility. Those who stay at home and do not vote evade this cost, but are rewarded or punished just the same as those who shoulder the cost of voting.

Which of the following statements is correct for this particular game?

(a) In the above game nobody choosing to vote is a Nash equilibrium outcome

(b) In the above game there is no Nash equilibrium outcome in which everybody chooses to vote

(c) One pure strategy Nash equilibrium outcome is as follows :

All the supporters of the conservative candidate vote for A and all the supporters of the liberal candidate vote for B

(d) None of the above