G-90

Entrance Examinations, February 2014
Ph.D. (Economics)

Time: 2 Hours

Max. Marks: 75

HALL TICKET NUMBER

PART-A

1. If the Hicksian compensated demand curve for a good coincides with the Marshallian demand curve, then for a change in price, this implies that:
   A. The good is an inferior good
   B. The income effect is zero
   C. The substitution effect is zero
   D. The price effect is zero.

2. If for an individual for a change in the price of a commodity, the compensating variation in income is equal to the equivalent variation in income, then this implies that:
   A. His Utility function is linear homogenous
   B. His Utility function is linear
   C. His Utility function is quasi-linear
   D. His Utility function is strictly convex

3. A monopolist produces a commodity X. There are two commodities in the economy, X and Y. The consumers' utility functions are given by $U = XY$. If the Consumers have fixed incomes, then this implies that:
   A. The marginal revenue of the monopolist will always be equal to unity
   B. The average revenues = marginal revenues
   C. The monopolist will not enter this market
   D. The monopolist will make normal profits

4. Suppose that the marginal costs are constant at $C > 0$ and that the demand function for commodity Y is given by: $Y = D(p) = 10/p$ if $p \leq 20$ and $D(p) = 0$ if $p > 20$. The profit maximizing price and quantity (p^*, Y^*) is given by:
   A. (1,10)
   B. (20, ½)
   C. (0,0)
   D. (10, 1)

5. In the Neo-classical model with a constant rate of growth of population, if there is technical change then:
   A. Only Hicks neutral technical progress would be consistent with steady state growth.
   B. Only Harrod-neutral technical progress is consistent with steady state growth.
   C. Both Hicks neutral technical progress and Harrod-neutral technical progress is consistent with steady state growth.
   D. Only Solow neutral technical progress is consistent with steady state growth.

6. The neo-classical model shows that a flexible capital-output ratio would ensure that:
   A. The expected rates of growth would equal the warranted rates of growth
   B. The warranted rates of growth would equal the natural rate of growth
   C. The expected rates of growth would equal the natural rates of growth
   D. The actual rates of growth will always be equal to the expected rates of growth.

7. The pivot on which employment and wages are determined in labour markets according to Marx is
    A. Population growth under capitalism.
    B. Growth in the numbers of new workers.
    C. Changes in the Reserve Army of Labour.
    D. Changes in the fertility rates and mortality rates of the population.

8. The agrarian movements of 1980s differ from the earlier peasant movements basically because
    A. They did not mobilize peasants.
    B. They gave up the demand for land re-distribution.
    C. They demanded abolition of intermediaries.
    D. All of the above.

9. Which problem is sought to be detected with the help of D-W statistic?
    A. Auto correlation
    B. Heteroscedasticity
    C. Multi-collinearity
    D. Specification error

10. In a double log regression model $\log Y_t = a + b \log X_t + U_t$, the slope coefficient gives
    A. the ratio of the relative change in Y for an absolute change in X
    B. the ratio of the percentage change in Y for a given percentage change in X
    C. the ratio of the absolute change in Y for a given percent change in X
    D. by how many units Y changes for a unit change in X

11. One hundred people were asked, "Do you favor stronger laws on gender-based violence?" Of the 33 that answered "yes" to the question, 14 were male. Of the 67 that answered "no" to the question, six were male. The probability that a randomly chosen respondent is a male given that the respondent does not favor stronger gender-based violence laws is
    A. 14/33
    B. 19/33
    C. 1/5
    D. 6/67

12. Which one of these statistics is unaffected by outliers?
    A. Mean
    B. Interquartile range
    C. Standard deviation
    D. Range

13. Logical Positivism believed that all scientific explanations have to have a common logical structure: they have at least one universal law plus a statement of relevant initial and boundary conditions, constituting *explanans* and a statement that explains some events in question, called *explanandum*. This is known as:
    A. Induction.
    B. Deduction.
    C. Hypothetico-Deduction.
    D. Falsification.

2

14. A box has square base and total surface area equal to 12 m². The maximum volume of such a box is:
  A. √2 m³
  B. 2√2 m³
  C. 4 m³
  D. 2 m³

15. Let x and y be numbers in the interval [1; 5] with x + y = 6. The values of x and y that will make xy² as large as possible are
  A. (x,y) = (4,2)
  B. (x,y) = (2,4)
  C. (x,y) = (5,1)
  D. (x,y) = (3,3)

16. Pick out the true statement:
  A. If a set is closed then this is a sufficient condition for it to be bounded
  B. If a set is closed and bounded then it is compact.
  C. If a set is bounded then it is compact.
  D. Every closed and convex set is compact

17. The distance between (0, -4) and (2, -1). Is:
  A. 3.61
  B. 13
  C. 5
  D. 6.31

18. Village level land-use data from secondary data in India is available in:
  A. Census of India
  B. agricultural census
  C. national income statistics
  D. Economic abstract.

19. In Dual-Gap analysis pioneered by Hollis Chenery, developing countries typically face
  A. Trade-deficit and fiscal deficit.
  B. Investment-savings gap and foreign exchange constraint.
  C. Natural resource constraint and technology constraint.
  D. None of the above.

20. The purchase of short-term bills from the general public by the Central bank will:
  A. decrease bank reserves
  B. increase the rate of interest
  C. decrease the supply of money
  D. increase the supply of money

21. To prevent the exchange rate (external value) of the currency from falling, the government can:
  A. Reduce interest rates
  B. Sell its own currency
  C. Buy its own currency with foreign reserves
  D. Increase its own spending

22. Which of the following monetary aggregates is used for policy purposes by the R.B.I.?
    A. M_1
    B.   Divisia Monetray Aggregates
    C.   Currency equivalent aggregates
    D. M_3

23. If the actual rate of unemployment is higher than the natural rate of unemployment because the government has reduced the rate of growth of money supply, then according to the accelerationist theory of inflation:
    A.   The expectation-augmented Phillips curve shifts downwards
    B.   The expectation-augmented Phillips curve shifts upwards
    C.   The long-run Phillips curve shifts to the left
    D.   Phillips curve shifts to the right

24. Price of a given stock has a positive probability of moving up or moving down in the next period. Let a call option on this stock be priced K and let a put option on this stock be priced P. Then it must be that:

    A. $K > 0$ and $P \leq 0$.
    B. $K > 0$ and $P > 0$.
    C. $K \leq 0$ and $P > 0$.
    D. $K \leq 0$ and $P \leq 0$.

25. The dictum that State can take away the property of individuals for public benefit is known as:
    A.   Public goods theory
    B.   Social Welfare principle
    C.   Private Benefit Principle
    D.   Eminent Domain Principle

PART- B

26. Consider the following model: There is an Incumbent firm I and a Potential entrant E. One unit of the good is demanded if the price of the good is less than or equal to 3. To enter this market the potential entrant, E, must pay a fee of ¼ (sunk cost). If the incumbent has Marginal costs of 2 and the entrant has a Marginal cost of 1, then
    A.   The incumbent can drive the entrant out of the market and set the monopoly price of 3
    B.   The entrant can enter the Market and make a positive profit and drive the incumbent out of the market.
    C.   The incumbent will allow entry and both will share the market
    D.   The entrant will not enter the Market.

27. If the marginal utility of money is declining with the amount of money an individual has then this implies that:
    A. The individual is a risk taker
    B. The individual is a risk avoider
    C. The individual is risk neutral
    D. His Utility function is Convex with respect to money.

28. Assuming that preferences can be represented by a Homothetic function implies that:
    A. They can also be represented by a Homogenous function of any degree
    B. They can also be represented by a trans log utility function
    C. They can also be represented by a linearly homogenous Utility function
    D. They can also be represented by a non- linear Utility function

29. The production set in Neo-classical theory represents:
    A. All possible techniques available to produce a given output from a given set of inputs
    B. Only the set of *efficient* techniques available to produce a given output from a given set of inputs.
    C. The minimum cost of producing a given level of output
    D. Only the maximum output that can be produced from a set of inputs

30. In the neo-classical model of growth, other things remaining constant, a higher savings rate implies:
    A. The growth rate of per capita income at the steady state would higher
    B. The level of per capita income would be higher
    C. The Capital to output ratio would be lower at the steady state with higher savings.
    D. There would be no change in the per capita level of income as population is a constant.

31. Given an aggregate production function which is Cobb-Douglas $Y = K^\alpha L^\beta$ and the rate of growth of population is n, s the savings rate and v the capital-output ratio, then the steady state equilibrium Capital Labour ratio, k^* is given by:
    A. $k^* = s/v = n$
    B. $k^* = (s/n)^{1-\alpha}$
    C. $k^* = (s/n)^{1/\beta}$ and $\alpha + \beta = 1$
    D. $k^* = (s/n)^\beta = v$

32. Which of the components of the Marx's Reserve Army of Labour come closest to Arthur Lewis' Surplus Labour?
    A. Stagnant Reserves
    B. Latent Reserves
    C. Floating Reserves
    D. None of the Above

33. In neo-classical analysis, development induced displacement is treated as:
    A. An negative externality that has to be corrected thru State intervention
    B. An unintended consequence
    C. A temporary phenomena that will disappear in the long run
    D. Both B and C

34. The Stigler-Peltzman Model of government action in a Democracy assumes that:
    A. Governments act in their self-interest just as Individuals are assumed to.
    B. The sole purpose of governments is to correct for Market failures
    C. Governments act in ways that would maximize the growth rate of a Nation
    D. Governments try to bring about economic efficiency through regulations.

35. A magazine printed a survey questionnaire in its monthly issue and asked its readers to fill it out and send it in. Over 1000 readers did so. This type of sample is called

    A. a cluster sample.
    B. a self-selected sample.
    C. a stratified sample.
    D. a simple random sample.

36. A fast-food restaurant chain with 700 outlets in India describes the geographic location of its restaurants with the accompanying table of percentages. A restaurant is to be chosen at random from the 700 to test market a new style of chicken. Given that the restaurant is located in the eastern India, what is the probability it is located in a city with a population of at least 10,000? (correct to 3 decimal places)

Population of the City	Region			
	North East	South East	South West	North West
< 10,000	1%	6%	3%	0%
10,000-100,000	15%	2%	12%	5%
>100,000	20%	4%	7%	25%

    A. 0.456
    B. 0.41
    C. 0.854
    D. 0.146

37. The covariance between the length and weight of five items is 6 and their standard deviations are 2.45 and 2.61 respectively. Then the correlation coefficient between the length and weight is
    A. very near to zero.
    B. 0.9974
    C. 0.6575
    D. 0.9383

38. A cointegration of two or more time series suggests that an equilibrium relationship between them exists that is of
    A. long-run
    B. short-run
    C. very short-run
    D. either (A) or (B) depending on the number of lags

39. The assumption of multicollinearity problem in econometrics means that
   A. There should be no correlation among the regressors.
   B. There should be no relationship among the regressors.
   C. There should be no linear relationship among the regressors
   D. There should be no nonlinear relationship among the regressors

40. According to Karl Popper, in scientific inquiry, one should formulate hypotheses which are
   A. Falsifiable
   B. Verifiable
   C. Quantifiable
   D. Observable

41. According to the Milton Friedman, the ultimate goal of a positive economics is to produce a theory which is capable of yielding
   A. A meaningful prediction
   B. A meaningful explanation
   C. A meaningful estimation
   D. A meaningful validation

42. Lionel Robins in his seminal paper "An Essay on the Nature and Significance of Economic Science" in 1935 asserted that chief of the postulates of economics such as "unlimited wants" or "scarce means" need no empirical basis, because
   A. They are self-evident from every day experience
   B. Experimental inferences are not always possible in economics
   C. This is considered to be more than mere deductive method
   D. All of the above.

43. The limit of the function $y = (x-1)^{1/2} / (x^2 - 1)$ as $x \to 1$:
   A. Does not exist
   B. is zero
   C. is infinity
   D. is 1

44. Which of the following statements is TRUE?
   A. Continuity of a function is a sufficient condition for Differentiability of the function.
   B. Continuity of a function is a necessary condition for Differentiability of the function.
   C. If a function is continuous at a point then it must be differentiable at that point.
   D. None of the statements are true.

45. Annual survey of Industries in India provides data on:
   A. Only organized sector
   B. Only unorganized sector
   C. both organized & unorganized sectors
   D. None of the above

46. The coverage of sample under National Sample Survey data is approximately,
   A. one lakh households
   B. one crore households
   C. 30 crore households
   D. 25% of total population households

7

47. Wholesale Price Index data is collected and published by :
    A. Ministry of Finance, GOI
    B. Reserve Bank of India
    C. CSO
    D. CMIE

48. The purchase of shares in an Indian company by Japanese investors will appear in India's balance of payments as:
    A. A credit on the Capital account
    B. A credit on the current account
    C. A debit on the Capital account
    D. A debit on the current account

49. A capital outflow on the Indian Balance of Payments occurs when
    A. Indian firms sell capital goods on overseas markets.
    B. Indian firms buy shares in overseas companies.
    C. Indian firms form a joint venture with overseas companies.
    D. Indian firms buy capital goods from overseas, to be used in production within India.

50. Main argument in favour of tariff is that
    A. it raises revenue
    B. it improves balance of payments
    C. it improves employment
    D. it protects infant industry

51. India's present slowdown in growth rate of GDP, which is associated with Global economic slowdown has cast doubts on the :
    A. Financial crisis thesis
    B. De-coupling thesis
    C. Coupling thesis
    D. None-of the above.

52. Amartya Sen in his work on *Poverty and Famines* asserted that the large scale deaths that happened during the Great Bengal Famine in 1943 were largely due to:
    A. A decline in foodgrain production in the country
    B. Lack of freedom under colonial rule
    C. Decline of entitlements to the people
    D. Widespread black marketing by traders

53. 62% of devolution of funds from Centre to the States in India are mediated by:
    A. Planning Commission
    B. Ministry of Finances, GOI
    C. Reserve Bank of India
    D. Finance Commission

54. The instability in food grain output in agriculture is due to :
    A. Relative prices
    B. Rainfall
    C. Cropping Pattern changes
    D. All of the above

8

55. According to Reserve Bank of India, the poor financial inclusion in the country is reflected by the fact that only _____ percent of people in the county are having a bank account:
    A. 35%
    B. 55 %
    C. 75%
    D. 95%

Question numbers 56 and 57 are based on the paragraph below:
Consider a 2-good (X and Y), 2n-person (n persons of type A and n persons of type B) *replica exchange economy* (n = 1, 2, 3, ...). Let each person of type A have utility, $U_A(x_A, y_A) = 2x_A + 3y_A$ and an initial endowment of $e_A = (20, 16)$ and let each person of type B have utility, $U_B(x_B, y_B) = 3x_B + 2y_B$ and an initial endowment of $e_B = (12, 20)$. The competitive as well as core allocations are specified by specifying allocation of good X and good Y to a single representative person of type A and a single representative person of type B.

56. This economy has,
    A. no competitive equilibrium
    B. unique competitive equilibrium
    C. multiple but finite competitive equilibria
    D. infinitely many competitive equilibria.

57. Let S be the set of competitive allocations and T be the set of core allocations.
    A. S and T are distinct for 2-person economy (n=1) but T tends to S as n tends to infinity.
    B. The set T shrinks as n increases.
    C. The set S shrinks as n increases.
    D. $S = T$ for all values of n.

58. Imperfect information can lead to the problems of:
    A. Moral Hazard
    B. Opportunistic Behaviour
    C. Adverse Selection
    D. All of the above

59. Increases in the Herfindahl index generally indicate:
    A. An increase in Industrial Concentration
    B. An increase in Market Competition
    C. A decrease in Market Concentration
    D. An increase in Market regulation

60. The concept of "Genuine savings" measures
    A. The savings after Taxes
    B. The Savings adjusted for the inflation rate
    C. True rate of savings in an economy after taking into account investments in human capital, depletion of natural resources and damage caused by pollution.
    D. Savings after adjusting for Risk in investments

61. The basic difference between ecological economics and environmental economics is that:
    A. The former is anthropocentric in its approach whereas the latter is more broad based.
    B. Ecological economics does not believe that natural capital can be replaced by man-made substitutes.
    C. Environmental Economics does not take into account destruction of habitats and problems of Bio-diversity
    D. None of the above

62. In the context of the Capital Asset pricing Model (CAPM) the relevant measure of risk is
    A. Unique risk
    B. Beta
    C. Standard deviation of returns
    D. Variance of returns

63. Common school system implies
    A. All children irrespective of their caste,class,gender,study in the same school
    B. The children of poor classes go to same school.
    C. The children of Govt. employees study in the same school.
    D. All of the above.

64. The terms of trade measure:
    A. The income of one country compared to another
    B. The GDP of one country compared to another
    C. The quantity of exports of one country compared to another
    D. Exports prices compared to imported prices

65. The basic difference between a sales tax and VAT
    A. Is the method of collection
    B. Is that the incidence of Tax, is different
    C. Is in the tax base
    D. Is not reflected in any of the above statements.

66. The original Gadgil formula was formulated to look into the:
    A. distribution of plan assistance during First and Second Five Year Plans
    B. Distribution of Plan and non-plan expenditures of the union government of India
    C. distribution of plan assistance during fourth and fifth Five Year Plans
    D. Determined the distribution of grants to different states of the Indian Union.

67. Which committee was constituted to examine the structure of both direct and indirect tax in 1991?
    A. . Choksi committee
    B. Chelliah committee
    C. Rekhi committee
    D. Narasimham Committee

68. Salary of the Vice-Chancellor of BHU comes under
    A. plan, development expenditure.
    B. non-plan, development expenditure.
    C. non-plan, non-development expenditure.
    D. plan, non-development expenditure.

10

69. Clowers' dual decision hypothesis is considered to provide:
    A. Macrofoundations of microeconomics
    B. Micorfoundations of macroeconomics
    C. Psychological foundations of micro- and macro-economics
    D. Rationalist foundations of micro- and macro-economics

70. Dynamic time inconsistency is a feature seen in,
    A. New classical macroeconomics
    B. Neo-Keynesian macroeconomics
    C. Classical macroeconomics
    D. Keynesian macroeconomics

71. Compared to the closed economy Keynesian model, the open economy model in which imports are a function of income has an investment multiplier that is
    A. smaller.
    B. larger.
    C. equal.
    D. equal to 1.

72. Monetarists and Keynesians agree that expectations are
    A. backwards-looking.
    B. rational.
    C. unstable.
    D. forwards-looking.

73. The Harris- Todaro model is concerned with analyzing
    A. the relationship between unemployment and Inflation
    B. Urban poverty
    C. Rural indebtedness
    D. Rural- urban migration

74. The origin of the "Big Push theory" is associated with the name of:
    A. A.O.Hirschman
    B. Ragner Nurkse
    C. Rosenstein Rodan
    D. W.W.Rostow

75. Which of the following statements is FALSE?
    A. Higher of two non-intersecting Lorenz curves can be obtained from the lower Lorenz curve by means of rank-preserving income transfers from richer to poorer individuals.
    B. Ranking Lorenz curves in accordance with first-degree Lorenz dominance means that the higher of non-intersecting Lorenz curves is preferred.
    C. The criterion of first-degree Lorenz dominance is inconsistent with the Pigou-Dalton principle of transfers.
    D. First-degree Lorenz dominance cannot be used to reach any conclusion.
       if two Lorenz curves intersect.

-----XXX-----