

A-79

Entrance Examination – 2021

Ph.D. ECONOMICS

Time: 2 Hours

Max. Marks: 70

HALL TICKET NUMBER

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INSTRUCTIONS

1. **Read the instructions carefully before answering.**
2. Enter your Hall Ticket Number on this page and also on the OMR answer sheet.
3. Answers are to be marked on the OMR answer sheet following the instructions provided thereon.
4. Handover the OMR answer sheet at the end of the examination, to the invigilator.
5. There are 70 questions in this paper. The question paper has **two** parts: **PART-A** and **PART-B**. **PART-A** contains 35 questions and **PART-B** also contains 35 questions. Marks obtained in PART-A will determine the merit rank in case of a tie in the total number of marks obtained.
6. Each correct answer carries **one** mark. There is no negative marking.
7. The question paper contains 17 - pages including the cover page and pages for rough work.

PART-A

1. An argument is generally valid, as long as
 - A. It is validated strictly by evidence alone
 - B. It is validated strictly by reason alone
 - C. It is validated either by some evidence or reason
 - D. It is validated by lived experience

2. In a field survey there is an item: "Have you borrowed any money in the preceding one year? Did you borrow from a moneylender? Y/N"
This item in a survey is considered as inappropriately formulated because
 - A. It is a double barrel question
 - B. It is a leading question
 - C. It is a qualitative question
 - D. It is an incomplete question

3. The distance covered is fixed but speeds are varying and an average speed is to be calculated. Which method is more appropriate to find out average?
 - A. Arithmetic Mean
 - B. Harmonic Mean
 - C. Geometric Mean
 - D. Mode

4. In the National Account Statistics of India, which approach for calculating GDP is considered as a firm approach?
 - A. Income Approach
 - B. Expenditure Approach
 - C. Production Approach
 - D. All of the above

5. "India imposed lockdown to reduce Covid19 deaths in 2020. Had it not imposed, the number of deaths could have been doubled". The kind of reasoning employed in the statement is known as:
 - A. Inductive Reasoning
 - B. Deductive Reasoning
 - C. Factual Reasoning
 - D. Counterfactual Reasoning

6. For the function $y = f(x) = x^3 - 3x^2 + 10$, which statement is true?
- A. The given function has only maximum value and no minimum value
 - B. The maximum value of y is 10 and the minimum value is 6 units
 - C. The maximum value of y is 6 and the minimum value is 10 units
 - D. The maximum and minimum values cannot be determined
7. A card is drawn at random from an ordinary deck of 52 playing cards. What is the probability that it is neither a five nor a diamond?
- A. $1/13$
 - B. $4/13$
 - C. $9/13$
 - D. $11/13$
8. In logic, the fallacy of *Non Sequitur* means:
- A. Non-Sequentially reasoning
 - B. Conclusions being not drawn from analysis
 - C. Appealing to the larger cause
 - D. Declaring argument null and void
9. A research intends to explore the result of possible factors for the organization of effective mid-day meal interventions. Which research method will be most appropriate for this study?
- A. Descriptive survey method
 - B. Historical method
 - C. Ex-post facto method
 - D. Experimental method
10. If the explained sum of squares is 45 and the total sum of squares is 60, find out R^2
- A. 0.75
 - B. 0.25
 - C. 0.33
 - D. 0.66
11. Which of the following is the device of obtaining answers to the questions in a form which is filled by the interviewers in a face-to-face situation with the respondents?
- A. Direct Personal Investigation
 - B. Indirect Oral Investigation
 - C. Questionnaire
 - D. Schedule

12. The major methodological shift from Classical Economics to Neo-Classical Economics is taking recourse to:
- A. Methodological Individualism
 - B. Methodological Holism
 - C. Homo Economicus
 - D. Deductive Logic
13. In estimates of the value of national income with reference to the value added by self-employed, family enterprises, small and tiny enterprises, non-wage, non-salaried services etc., is based on:
- A. Census data
 - B. Sample Survey data
 - C. Contingent Valuation data
 - D. Imputed Valuation data
14. The general t-statistic can be written as
- A. $t = \frac{\text{Hypothesized Value}}{\text{Standard Error}}$
 - B. $t = \frac{(\text{Estimate} - \text{Hypothesized Value})}{\text{Variance}}$
 - C. $t = \text{Estimate} - \text{Hypothesized value}$
 - D. $t = \frac{(\text{Estimate} - \text{Hypothesized Value})}{\text{Standard Error}}$
15. The set of z scores inside the range -1.96 to 1.96 constitutes what is called the
- A. Critical region
 - B. Region of rejection of the hypothesis
 - C. Region of acceptance of the hypothesis
 - D. Region of significance
16. Which of the following economist received a Nobel Prize for his contribution to Behavioral Economics?
- A. Paul Romer
 - B. Richard H Thaler
 - C. K.J.Arrow
 - D. Ronald Coase

17. Age and teaching pedagogy is a case of _____ variables respectively.

- A. Attribute and active
- B. Active and attribute
- C. Categorical and active
- D. None of the above

18. The density function of a continuous random variable X is

$$f(x) = \begin{cases} 4x(9-x^2)/81 & 0 \leq x \leq 3 \\ 0 & \text{Otherwise} \end{cases}$$

Find the mode.

- A. X = 0.63 approximately
- B. X = 1.73 approximately
- C. X = 2.53 approximately
- D. X = 2.93 approximately

19. Firm data collected for top 10 Coal companies based on profitability for years 2010 to 2020 is an example of:

- A. Time series data
- B. Cross-sectional data
- C. Panel data
- D. Pooled data

20. Which of the following is not an example of a proposition?

- A. Inflation is caused by excess money supply
- B. M1 by definition means cash balances with the public and demand deposits
- C. Labour Supply Curve is backward bending
- D. Investment is a determinant of economic growth

21. Name the type of research where the research question is ambiguous

- A. Casual research
- B. Descriptive research
- C. Exploratory research
- D. Explanatory research

22. x is a square $\Rightarrow x$ is a rectangle. It would read
- A. A sufficient condition for x to be a rectangle is that x be a square
 - B. A necessary condition for x to be a square is that x be a rectangle
 - C. Only B is true
 - D. Both A and B are true
23. In a multiple regression model with 20 observations and 4 independent variables, the R^2 is 0.605 then the adjusted R^2 is _____.
- A. 0.40
 - B. 0.50
 - C. 0.60
 - D. 0.30
24. Under the NAS classification, a sector of activity covered by the Factories Act of 1948 would be classified as:
- A. Formal sector
 - B. Organized sector
 - C. Regulated sector
 - D. Legal sector
25. P, Q and R are three statements, such that (P or Q) is True and (Q and R) is False. Then,
- A. If R is True, then P is True
 - B. If P is True, then R is False
 - C. Q is False and P is True
 - D. Q is False and P is False
26. Specification bias or specification error in a regression model means
- A. Leaving out important explanatory variables
 - B. Including unnecessary variables
 - C. Choosing the wrong functional form between Y and X variables
 - D. All of the above

27. McFadden's R squared measure is defined as

- A. $1 - \frac{\text{Log } L_{\text{estimated model}}}{\text{Log } L_{\text{null}}}$
 B. $\frac{\text{Log } L_{\text{estimated model}}}{\text{Log } L_{\text{null}}}$
 C. $\frac{\text{Log } L_{\text{estimated model}}}{\text{Log } L_{\text{null}}}$
 D. $1 - \frac{\text{Log } L_{\text{null}}}{\text{Log } L_{\text{estimated model}}}$

28. What were the methods used to assess economic activity of a country prior to the development of the concept of national income?

- A. Index of Barter
 B. Index of Trade
 C. Index of Labour
 D. Indices of Sectoral Incomes and Money Supply

29. The size of confidence interval will be smaller, *ceteris paribus*, if:

- I. required significance level is larger;
 II. the variance is larger;
 III. the sample size is larger.

Which of the above statement(s) is (are) true?

- A. I and II only
 B. II and III only
 C. I and III only
 D. All I, II and III are true

30. Exclusion of a relevant variable from a multiple linear regression model leads to the problem of _____.

- A. Multicollinearity
 B. Heteroskedasticity
 C. Misspecification error
 D. Auto-correlation

31. Yasmin's score in the Mathematics test is 78. Her class average and standard deviation are 68 and 4 respectively. Zainab, who is in another section of the course scored 82 on the same test. Her class average and standard deviation are 71 and 6 respectively. Compare Yasmin's and Zainab's scores relative to their sections.

- A. Yasmin's performance is better
 B. Zainab's performance is better
 C. Equal performance
 D. Not enough information to draw a conclusion

32. The appropriate method employed for calculating the national income in an economy where bulk of producers pay income tax and rest of workers make a regular social security payment which is linked to their incomes is:
- A. Expenditure Method
 - B. Income Method
 - C. Consumption Method
 - D. Tax and Social Security Method
33. The information supplied by the Y survey helps in (i) estimating the cost of the main survey and also the time needed for the availability of the results, (ii) improving the organization of the field work by removing the defects or faults observed in the Y survey, (iii) training of the field staff, and (iv) formulating effective methods of asking questions. Here "Y survey" refers to
- A. The law of large number survey
 - B. The parameter-based survey
 - C. The complete enumeration survey
 - D. The pilot survey
34. R^2 is always between zero and one, because of
- A. Explained sum of squares can be no greater than total sum of squares
 - B. Residual sum of squares can be no greater than total sum of squares
 - C. Explained sum of squares can be no less than total sum of squares
 - D. Residual sum of squares can be no less than total sum of squares
35. The method of calculating the price indices by using current weights is referred to as
- A. Lespeyre's Index
 - B. Friedman's Index
 - C. Paasche's Index
 - D. Fisher's Index

PART - B

36. Neoclassical assumption about the essential behavior of an individual as a maximiser of utility is known as:

- A. Homo sapien
- B. Homo Hierarchus
- C. Homo Economicus
- D. Homo Maximus

37. Underlying the application of the monopolistic competition model to trade is the idea that trade:

- A. Increases market size
- B. Allows companies to charge higher price
- C. Increases consumer choices
- D. Decreases the number of firms in an industry

38. According to the theory of comparative advantage, which of the following is **NOT** a reason why countries trade?

- A. Costs are higher in one country than in another
- B. Prices are lower in one country than in another
- C. The productivity of labour differs across countries and industries
- D. Exports give a country a political advantage over other countries that export less

39. The movement to free international trade is most likely to generate short-term unemployment in which industries:

- A. Industries in which there are neither imports nor exports
- B. Import-competing industries
- C. Industries that sell to domestic and foreign buyers
- D. Industries that sell to only foreign buyers

40. Mercantilism

- A. Is the philosophy of free international trade
- B. Was a system of export promotion and barriers to imports practiced by governments
- C. Was praised by Adam Smith in The Wealth of Nations
- D. Both (a) and (c)

41. Seignorage is the revenue a government raises by
- A. Taxation
 - B. Charging fees for services
 - C. Borrowing money
 - D. Printing money
42. Which of the following is the operating target of monetary policy conducted by the Reserve Bank of India?
- A. Weighted average call money rate
 - B. Repo rate
 - C. Reverse repo rate
 - D. Marginal standing facility
43. A bank run is best described by
- A. A large-scale, panicky withdrawal of deposits from a bank
 - B. The transfer of funds from one bank to another
 - C. A situation when a bank heavily borrows from the central bank
 - D. A situation in which a bank borrows at the interbank money market rate
44. Milton Friedman and Edmund Phelps questioned
- A. The use of expectations in the Phillips curve
 - B. The stability of the relationship between inflation and unemployment
 - C. The idea of natural rate of unemployment
 - D. The existence of a full-employment level of output
45. The Reserve Bank of India adopted which of the following approach in 1998?
- A. Direct inflation targeting
 - B. Flexible inflation targeting
 - C. Multiple indicators approach
 - D. Monetary targeting
46. In the theory of demand for money, Baumol's square root rule implies the following
- A. The transactions demand for money is negatively related to the interest rate and a lowering of the brokerage costs would decrease the demand for money
 - B. The transactions demand for money is NOT related to the interest rate
 - C. The transactions demand for money is positively related to the interest rate
 - D. Only brokerage costs matter
47. Roy's identity facilitates derivation of
- A. Marshallian demand function from the indirect utility function
 - B. Hicksian demand function from indirect utility function
 - C. Expenditure function

- D. None of the above
48. An explicit delineation of property rights usually eliminates the problem of externalities. This statement is
- A. Maybe true
 - B. Need more information
 - C. False
 - D. True
49. In an experimental game, in which two parties interact anonymously and only once, so reciprocation is not an issue. The first player proposes how to divide a sum of money (say 100 rupees) with the second party. If the second player rejects this division, neither gets anything. If the second accepts, the first gets her demand and the second gets the rest. A rational purely self-interested person would propose an allocation of:
- A. 1 and keep 99
 - B. 0 and keep 100
 - C. 40 and keep 60
 - D. 50 and keep 50
50. In growth models, technical progress is said to be Harrod neutral in which there is
- A. Constant Output-Labour ratio
 - B. Constant Capital-Labour ratio
 - C. Constant Capital-Output ratio
 - D. Constant growth of capital and labour
51. Who was the first economist to use the idea of learning-by-doing to model endogenous growth theory?
- A. Robert Lucas
 - B. Paul Romer
 - C. Kenneth Arrow
 - D. Elhanan Helpman
52. The AK model is a special case of the Cobb-Douglas production function, there is endogenous growth because of
- A. Constant Returns to scale
 - B. Increasing Returns to scale
 - C. Diminishing Returns to scale
 - D. Diminishing Returns to scale with a lower bound

53. In the basic Aggregate Demand-Aggregate Supply (AD/AS) model, which of the following is a defining assumption of the adjustment process that takes the economy from the short run to the long run?
- A. Factor supplies are assumed to be varying
 - B. Technology used in production is endogenous
 - C. The level of potential output fluctuates with the price level
 - D. Factor prices are assumed to respond to output gaps
54. In the basic neoclassical growth model. The effect of an increase in population (or the labour force) in an economy, with everything else held constant, is
- A. An increase in per capita national income
 - B. A decrease in per capita output
 - C. A decrease in the capital-output ratio
 - D. An inward shift of the production possibilities boundary
55. What is a Nash equilibrium?
- A. An example of a cooperative equilibrium
 - B. A situation where all players are maximizing their payoffs given the current behaviour of the other players
 - C. A situation where all players are better off than they would be with any other combination of strategies
 - D. An unstable equilibrium
56. According to Ricardo's theory of differential rent, rent emerges because of
- A. Leasing of land and its natural resources
 - B. Contracting between workers and capitalists
 - C. Differences between surplus produce and wages paid
 - D. Differences in the productivity of land
57. Many scholars inaccurately attribute the wage fund theory to Adam Smith; the theory was in effect formulated by
- A. John McCulloch and John Stuart Mill
 - B. David Ricardo and Karl Marx
 - C. John Stuart Mill and David Ricardo
 - D. John McCulloch and Karl Marx
58. In Classical Economics, unproductive labour is
- A. Unemployed labour
 - B. Labour engaged in services
 - C. Labour engaged in agriculture

D. Child and women workers

59. The inverse supply and inverse demand functions of a commodity X are given by $P_s = 8 + 4X$ and $P_d = 20 - 5X$ respectively. If price P and quantity X are determined at the equality of total demand and total supply, then which statement is true?

- A. Equilibrium price is 40 and equilibrium quantity is 9
- B. Consumer's surplus is exactly equal to producer's surplus
- C. Consumer's surplus is less than the producer's surplus
- D. Consumer's surplus is greater than producer's surplus

60. According to India's union budget of 2021, how much amount is allocated for COVID vaccine?

- A. 20,000 Crore
- B. 15,000 Crore
- C. 35,000 Crore
- D. 50,000 Crore

61. Consider the following indirect demand and supply equations for a good:

$$(S) \quad p = -30 + 0.25 Q^S; \quad (D) \quad p = 19 - 0.20 Q^D. \quad (p \geq 0; Q^S \geq 0; Q^D \geq 0)$$

Which of the following is true for this system?

- A. This is a free good and has no market equilibrium at any non-negative prices.
- B. This is an economic good with a unique stable equilibrium
- C. This is an economic good with a unique but unstable equilibrium
- D. This is an economic good with multiple equilibria

62. The concept of Merit goods is given by

- A. Samuelson
- B. Dalton
- C. Musgrave
- D. None of the above

63. Wage Efficiency and Insider-Outsider hypothesis are associated with which of the following approaches?

- A. Keynesian
- B. Post-Keynesian
- C. Classical
- D. New Keynesian

64. The Female Labour Force Participation Rates in India for the past one decade have shown
- A. Stable Trend
 - B. Declining Trend
 - C. Increasing Trend
 - D. No Discernible Trend
65. Raw material in the Marxist Political Economy is characterized as:
- A. Variable Capital
 - B. Non-Capital
 - C. Constant Capital
 - D. Marginal Capital
66. The capitalist form of circulation of commodities in the Marxian analysis is represented by
- A. C-M-C
 - B. M-C-M
 - C. M-C-M'
 - D. C-M-C'
67. The concept employed by Marxist Political Economy to understand the surplus value generated through the introduction of modern machines:
- A. Absolute Surplus Value
 - B. Mechanical Surplus Value
 - C. Constant Surplus Value
 - D. Relative Surplus Value
68. Which of the following is a desirable state of public finance under Indian conditions?
- A. A zero-fiscal deficit
 - B. Fiscal deficit greater than revenue deficit
 - C. Revenue deficit greater than fiscal deficit
 - D. A zero-revenue deficit
69. A peculiar feature of India's Balance of Payments (BoP) under British rule was
- A. A trade deficit with positive Balance of Payments
 - B. A trade surplus with positive Balance of Payments
 - C. A trade surplus with negative Balance of Payments
 - D. A trade deficit with negative Balance of Payments

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70. The latest year for which India's population census data is available

- A. 2021
- B. 2011
- C. 2019
- D. 2014

Ph.D (Economics) 2021

Revised Key

Q.No.	Key	Q.No.	Key	Q.No.	Key
1	C	26	D	51	C
2	A	27	A	52	A
3	B	28	D	53	D
4	C	29	B	54	B
5	D	30	C	55	B
6	B	31	A	56	D
7	C	32	B	57	A
8	B	33	D	58	B
9	C	34	A	59	D
10	A	35	C	60	C
11	D	36	C	61	A
12	A	37	A	62	C
13	B	38	D	63	D
14	D	39	B	64	B
15	C	40	B	65	C
16	B	41	D	66	C
17	A	42	A	67	D
18	B	43	A	68	D
19	D	44	B	69	C
20	B	45	C	70	B
21	C	46	A		
22	D	47	A		
23	B	48	D		
24	B	49	A		
25	A	50	C		

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DEAN