

## Centre for Development Studies Thiruvananthapuram

## MA Applied Economics

**ADMISSION EXAMINATION 2019** 

Register Number:		]
Question Booklet Series:	В	

## Read the instructions carefully before answering the questions

- This booklet contains 100 objective questions having multiple choices in answers
  with only one correct answer. All questions are compulsory and allowed time is
  two hours.
- Each correct answer carries three marks and for each wrong answer one mark will be deducted. Non-attempted questions carry zero mark.
- Write your Register Number in the space provided on the top of this booklet.
- Write your Register Number and Question Booklet Series code in the Answer Sheet in the space provided.
- The question booklets are in four series (A,B,C,D). The series code is displayed
  on the top of this page as well as on the top right corner of every page.
- Answer the questions by writing the alphabet (A,B,C, or D in capital letters), corresponding to your answer, on the Answer Sheet against the question number. If you mistakenly mark a wrong choice, you can strike it out using "multiplicative sign" (×), and then write the correct choice in the remaining space.
- Use a ballpoint pen (black or blue ink) to mark answers.
- · Please do not make any stray marks on the Answer Sheet.
- Return the Answer Sheet to the invigilator at the end of the examination. Candidates can take the Question Booklet and Hall Ticket with them after the examination.
- Last page of this booklet can be used for doing rough work.

1. Figure 1 plots the relationship between household income and household saving in four countries A, B, C and D. In which country redistribution of income from rich households to poor households would increase aggregate saving?

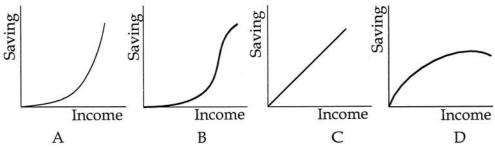


Figure 1: Saving-income relationship

- A. A
- B. B
- C. C
- D. D
- 2. If a country's nominal GDP is grew at 10%, population grew at 2% and real percapita income grew at 5%, then inflation rate is \_\_\_\_\_\_.
  - A. 5%
  - B. 3%
  - C. 12%
  - D. 7%
- 3. Multiplier effect of government expenditure in Keynesian model crucially depends on \_\_\_\_\_\_.
  - A. Marginal Propensity to Consume (MPC)
  - B. the stability criteria of the model.
  - C. Both of the above.
  - D. None of the above.
- According to Milton Friedman, consumption depends \_\_\_\_\_\_
  - A. fully on permanent income
  - B. fully on transitory income
  - C. fully on the sum of permanent income and transitory income
  - D. partly on permanent income and partly on transitory income

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5. According to Life-cycle hypothesis about consumption, people save
A. to finance old age consumption.
B. due to uncertainty in future.
C. due to their bequest motive.
D. all of the above.
6. According to Accelerator model of inventories, inventory investment depends of
·
A the GDP

- B. the change in the GDP.
- C. the real interest rate.
- D. the real interest rate and the depreciation rate.
- 7. If people choose to hold a greater fraction of currency compared to their demand deposits, then the money supply will \_
  - A. remain unchanged under 100-percent reserve banking as well as under fractional-reserve banking.
  - B. decrease under both 100-percent reserve banking and under fractionalreserve banking.
  - C. decrease under 100-percent reserve banking but remain unchanged under fractional-reserve banking.
  - D. remain unchanged under 100-percent reserve banking but decrease under fractional-reserve banking.
- 8. Consider a simple Keynesian model with constant price level. The consumption function is C = 10 + 0.7Y and the investment function is I = 8 + 0.4Y. Can the government increase output by increasing government consumption?
  - A. Never.
  - B. Always.
  - C. Sometimes, depending on the value of government consumption.
  - D. Sometimes, depending on the amount of increase in government consumption.
- 9. Consider a simple Keynesian model in which consumption increases with disposable income and investment is exogenously determined. If government increases consumption by increasing lump sum tax on consumers, then \_
  - A. equilibrium output will increase but private consumption will decrease.
  - B. equilibrium output will not change but private consumption will decrease.
  - C. equilibrium output will increase but private consumption will not change.
  - D. both equilibrium output and private consumption will increase.

- 10. The number of steady states in the Solow growth model is \_\_\_\_\_.

  A. zero
  - B. one
  - C. two
  - D. depends on the rate of technological progress
- 11. Suppose there are two countries A and B. At some time point, country A is richer and grows faster than country B. According to Solow growth model, what may be the reasons?
  - A. Country A has higher savings rate and lower population growth rate.
  - B. Country A has lower population growth rate but higher rate of technological progress.
  - C. Country A has higher savings rate and higher rate of technological progress.
  - D. All of the above.
- 12. In the standard IS-LM model, an increase in government consumption results an increase in equilibrium output and the amount of increase in income will be higher when \_\_\_\_\_\_.
  - A. MPC will be lower and interest sensitivity of the investment will be lower.
  - B. MPC will be higher but interest sensitivity of the investment will be lower.
  - C. MPC will be higher and interest sensitivity of the investment will be higher.
  - D. MPC will be lower but interest sensitivity of the investment will be higher.
- 13. Suppose that money demand does not depend on the nominal interest rate. In that case, with constant price level, which of the following statement about LM curve is true?
  - A. We can never get a vertical LM curve.
  - B. We can always get a vertical LM curve.
  - C. For a special case, we can get a vertical LM curve.
  - D. None of the above.
- 14. Which of the following Keynesian assumption(s) about the aggregate consumption function do not hold in the long run?
  - A. Marginal propensity to consume is a positive fraction.
  - B. Average propensity to consume falls as income rises.
  - C. Both of the above.
  - D. None of the above.

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15.	Firms in	vest if Tobin's q is
	A.	negative fraction.
	B.	positive fraction.
	C.	equals to one.
	D.	greater than one.
16.	Long rur	growth rate of the economy in the Solow model depends on
	A.	marginal productivities of factors of production.
	B.	the capital by labour ratio of the economy.
	C.	the initial capital stock.
	D.	the rate of technological progress.
17.		ent may increase or decrease in the initial phases of a Real Business Cycle ng upon
	A.	elasticity of demand and supply.
	B.	initial level of GDP
	C.	the depreciation rate of capital
	D.	the persistence of fiscal shock and elasticity of labour supply.
18.	Liquidity	trap is a situation when
	A.	interest rate is low and savings rate is high.
	B.	interest rate is high and savings rae is low.
	C.	both are high
	D.	both are low.
19.	In a situa	ation of liquidity trap
	A.	both fiscal and monetary policy is effective.
	B.	only fiscal policy is effective
	C.	none are effective
	D.	only monetary policy is effective.
20.	investme	on argued that investment function has three parts; (1) an autonomous ent part, (2) a part which is a function of the rates of interest, and (3) a sch is a function of change in consumption demand. This is called the
	Α.	multiplier principle
		accelerator principle
		1 1

C. correspondence principle

D. None of the above

21. Consider an economy with consumption (C), investment (I), government purchases (G), taxes (T), money demand  $(\frac{M}{P})$  and money supply are given by the following equations

$$C = 200 + 0.25Y_D$$

$$I = 150 + 0.25Y - 1000i$$

$$\frac{M}{P} = 2Y - 8000i$$

$$G = 250$$

$$T = 200$$

$$\frac{M}{P} = 1600$$

where Y, I, M, P respectively denote output, interest rate, price level. The equilibrium output and interest rate is given by:

- A. Y = 1000, i = 5%
- B. Y = 2000, i = 5%
- C. Y = 1000, i = 3%
- D. Cannot be determined
- 22. Friedman thought that Phillips curve is not correct because \_\_\_\_\_
  - A. agents are not rational in an economy.
  - B. agents face uncertainty in the economy.
  - C. inflation is a monetary phenomenon.
  - D. agents have perfect foresight.
- 23. Classical dichotomy means that \_\_\_\_\_
  - A. nominal variables cannot affect real variables.
  - B. real variables cannot affect nominal variables
  - real variables can be analysed without analysing their nominal counterparts.
  - D. None of the above.
- 24. In new classical school of macroeconomics \_\_\_\_\_
  - A. money is neutral both in short run and long run.
  - B. money is neutral in long run but not inshort run. Government can exploit this by using the Phillips curve.
  - C. though money is neutral in long run but not in short run, government cannot exploit this because agents are rational.
  - D. money is neutral in short run but not in long run.

- 25. New classical macroeconomics explain business cycles as \_\_\_\_\_
  - A. essentially monetary phenomenon
  - B. emerging due to capital inflows and outflows
  - C. basically arising from interaction between workers choice of labor and leisure and productivity shocks.
  - D. None of the above.
- 26. Production function of firms A and B are respectively  $Q_A = 10L_A^{0.6}K_A^{0.4}$  and  $Q_B = 13L_B^{0.6}K_B^{0.4}$ . If both firms face the same wage and rental rate, which of the following statements is true in equilibrium?

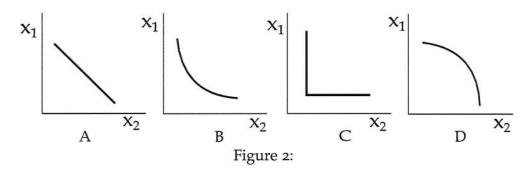
A. 
$$L_A > L_B$$

B. 
$$L_A \leq L_B$$

C. 
$$L_A < L_B$$
 and  $K_A < K_B$ 

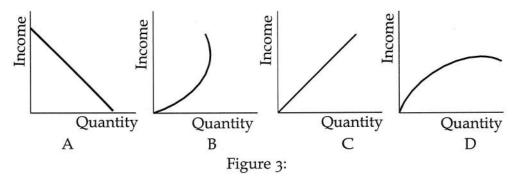
D. 
$$L_A < L_B$$
 and  $K_A > K_B$ 

- 27. Ram's preference over a set of beverages consisting coffee, green tea, black tea and lemon tea is complete and transitive. He prefers coffee over black tea and lemon tea, indifferent between black and green tea and prefers lemon tea over green tea. Given this information, which of the following statement is false?
  - A. he prefers lemon tea over black tea
  - B. he prefers coffee over green tea
  - C. he prefers black tea over lemon tea
  - D. None of the above.
- 28. Consider the utility function  $U = 5x_1 + 5x_2$ . Which graph in Figure 2 does depict the indifference curve of this utility function?



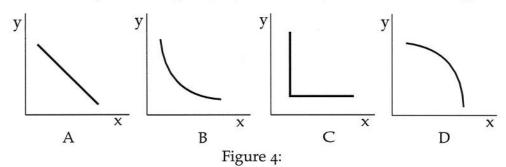
- A. A
- B. B
- C. C
- D. D

- 29. Tom is indifferent between two commodity bundles  $c_1 = (x_1, y_1)$  and  $c_2 = (x_2, y_2)$  and his preferences are convex. For any  $t \in [0, 1]$ , this implies
  - A.  $(tx_1 + (1-t)x_2, ty_1 + (1-t)y_2) \succcurlyeq (x_1, y_1)$
  - B.  $(tx_1 + (1-t)x_2, ty_1 + (1-t)y_2) \sim (x_1, y_1)$
  - C.  $(tx_1 + (1-t)x_2, ty_1 + (1-t)y_2) \prec (x_1, y_1)$
  - D. None of the above.
- 30. Jerry's preferences over the commodity bundle  $C = \{A, B, C\}$  are as follows.  $A \succ B$  and  $B \sim C$ . A utility function  $f(\cdot)$  defined over C satisfies all the following except \_\_\_\_\_\_.
  - A. f(A) f(B) > 0
  - B. f(A) > f(C)
  - C. f(B) f(C) < 0
  - D. None of the above
- 31. Which graph in Figure 3 is an Engel curve derived from homothetic preferences?



- A. A
- В. В
- C. C
- D. D
- 32. A firm's fixed cost is *F* and its marginal cost is constant. Which of the following statement on the behaviour of average cost (AC) is true?
  - A. AC continuously falls as output increases
  - B. Initially AC falls and then it raises
  - C. AC remains constant
  - D. AC increases as output increases.

- 33. When the firm reduced the price of its product by 10%, its revenue increased by 15%. The absolute value of elasticity of demand for its product is \_\_\_\_\_\_.
  - A. less than one.
  - B. greater than one, but less than 2
  - C. greater than 2
  - D. equal to one
- 34. A firm has a manufacturing plant in country Z, where wage rate has declined due to immigration. Optimum level of employment in manufacturing plant would
  - A. increase
  - B. decrease
  - C. remain constant
  - D. can't say anything
- 35. If inputs *x* and *y* have strict complementarity in the production of commodity *Z*, then which isoquants in Figure 4 represents the production technology of *Z*?



- A. A
- B. B
- C. C
- D. D
- 36. A rightward shift of the demand curve for product A can most reasonably be explained by saying that \_\_\_\_\_\_.
  - A. consumer incomes have declined
  - B. the price of A has increased
  - C. consumer preferences have changed in favour of A
  - D. the supply of A has increased due to reduction in cost of production
- 37. Which of the following is not an example of an increase in productivity?
  - A. producing same output with same inputs
  - B. producing same output with more inputs
  - C. producing more output with same inputs
  - D. producing more output with more inputs

38. The shaded area in Figure 5 is \_\_\_\_\_

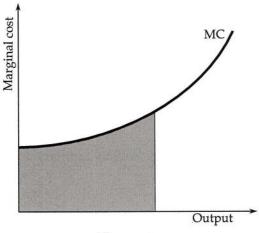


Figure 5:

- A. Total cost
- B. Variable cost
- C. Fixed cost
- D. Average Cost

39. Let x and p be respectively the quantity demanded and price of a commodity. If the demand for the good is price inelastic, then a fall in p would cause px to

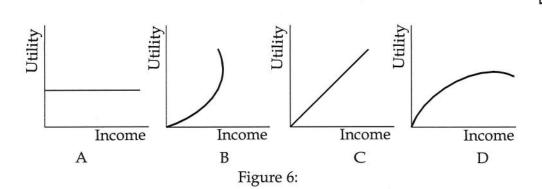
- A. increase
- B. decrease
- C. become zero
- D. remain constant

40. In the short run under perfect competition, loss of a firm is minimum at a point where \_\_\_\_\_.

- A. MR > MC
- B. MR = MC
- ·C. AC = AR
- D. AC > MC

41. Total area under the demand curve is a measure of \_\_\_\_\_

- A. marginal utility
- B. consumer surplus
- C. producer surplus
- D. total utility



- 42. Ramu always involves in gambling. Which graph in Figure 6 does represent his utility function?
  - A. A
  - B. B
  - C. C
  - D. D
- 43. As a group, oligopolists would always be better off by \_\_\_\_\_
  - A. increasing production
  - B. operating by self interest
  - C. decreasing prices
  - D. limiting production
- 44. All of the following can cause a monopoly to break down except \_\_\_\_\_
  - A. increased barrier to entry
  - B. international competition
  - C. changing consumer's preferences
  - D. innovation
- 45. Which of the following is true?
  - A. In Bertrand oligopoly each firm believes that their rivals will hold their output constant if it changes its output.
  - B. In Cournot oligopoly firms produce an identical product at a constant marginal cost and engage in price competition.
  - C. In oligopoly a change in marginal cost never has an affect on output or price.
  - D. None of the above
- 46. Is congested non-toll road a public good?
  - A. Yes
  - B. No
  - C. May be
  - D. None of the above

- 47. Let the inverse demand function be P = 20 q, where P is the Price and q is the output produced. What is the optimal output of a monopolist if the marginal cost is ₹3 and the government imposes a per unit tax of ₹1 per unit?
  - A. 9.5
  - B. 8.5
  - C. 8
  - D. 9
- 48. Giffen goods are inferior.
  - A. True,
  - B. False,
  - C. May be,
  - D. None of these
- 49. Let the market price is ₹100 and the firm is a price taker. What is the optimal output in the short run if the cost function of the firm is  $C(q) = 2q^2 + 50$ , where q is the output produced?
  - A. 25,
  - B. 50,
  - C. 30,
  - D. None of these
- 50. Dead-weight loss may arise in a perfectly competitive market, if the government imposes per unit tax.
  - A. True,
  - B. False,
  - C. May be,
  - D. None of these
- 51. Let  $f(x) = xe^{3x}$ , then f'(x) is \_\_\_\_\_.
  - A.  $e^{3x} + xe^{3x}$
  - B.  $3xe^{3x-1}$
  - C.  $e^{3x}(3x+1)$
  - D. None of the above.
- 52. A real valued set *X* is said to be convex if \_\_\_\_\_\_
  - A.  $x + y \in X \ \forall x, y \in X$
  - B.  $tx + (1-t)y \ge x + y \ \forall x, y \in X \ \text{and} \ \forall t \in (0,1)$
  - C.  $tx + (1-t)y \in X$ ,  $\forall x, y \in X$  and  $\forall t \in (0,1)$
  - D. None of the above

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53. The system of linear equations

$$(4d-1)x + y + z = 0$$
$$-y + z = 0$$
$$(4d-1)z = 0$$

has a non-zero solution if

- A.  $d = \frac{1}{4}$
- B. d = 0
- C.  $d \neq \frac{1}{4}$
- D. d = 1

54. Let **A** be a  $n \times n$  identity matrix, then det A is \_\_\_\_\_

- A. +1
- B. -1
- C. n
- D.  $n^2$

55. A real valued function f defined on a convex subset S of  $\mathbb{R}^n$  is concave if

A. 
$$f(\lambda x + (1 - \lambda)y) \le \lambda f(x) + (1 - \lambda)f(y) \ \forall x, y \in S \ \text{and} \ \forall \lambda \in (0, 1)$$

B. 
$$f(\lambda x + (1 - \lambda)y) \ge \lambda f(x) + (1 - \lambda)f(y) \ \forall x, y \in \mathbb{R}^n \text{ and } \forall \lambda \in (0, 1)$$

C. 
$$f(\lambda x + (1 - \lambda)y) \ge \lambda f(x) + (1 - \lambda)f(y) \ \forall x, y \in S \ \text{and} \ \forall \lambda \in (0, 1)$$

D. None of the above

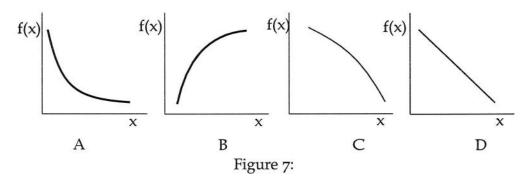
56. 
$$\lim_{n \to \infty} \left( 1 + \frac{1}{n} \right)^n$$
 is \_\_\_\_\_.

- A.  $e^{\infty}$
- В. е
- C.  $e^n$
- D.  $\log n$

57. If A, B and C are three sets, then  $(A \cup B) \cap C$  is equal to \_\_\_\_\_

- A.  $(A \cap C) \cup (B \cap C)$
- B.  $(A \cup C) \cap (B \cup C)$
- C.  $(A \cap C) \cap (B \cup C)$
- D. None of the above

- 58. If  $r \in \mathbb{R}$ ,  $r \neq 1$ , and  $n \in \mathbb{N}$ , then  $1 + r + r^2 + \cdots + r^n$  is equal to \_\_\_\_\_.
  - A.  $\frac{1}{1-r}$
  - B.  $\frac{1}{1+r}$
  - C.  $\frac{1-r^{n+1}}{1-r}$
  - D.  $\frac{1+r^{n+1}}{1-r}$
- 59. Let f(x) be a function such that  $x \in (0,100)$ , f'(x) < 0, and f''(x) > 0, which graph in Figure 7 does represent the function?



- A. A
- В. В
- C. C
- D. D
- 60.  $\lim_{x \to 2} \frac{x^2 4}{3x 6}$  is \_\_\_\_\_
  - A. Not defined.
  - В. о
  - C. ∞
  - D.  $\frac{4}{3}$
- 61. Let **A** be a  $n \times n$  matrix. The statement that matrix **A** is invertible is equivalent to
  - A. it's determinant is zero.
  - B. its columns are linearly related.
  - C. it's maximal rank is n
  - D. it is singular
- 62. Let **A** and **B** are matrices and **AB** is invertible.  $(AB)^{-1}$  is equal to \_\_\_\_\_
  - A.  $A^{-1}B^{-1}$
  - B.  $B^{-1}A^{-1}$
  - C.  $AB^{-1}$
  - D.  $A^{-1}B$

- 63. The number of real solutions of the equation  $|x|^2 3|x| + 2 = 0$  is ?
  - A. 2
  - B. 3
  - C. 1
  - D. 4
- 64. Let  $f : \mathbb{R} \to \mathbb{R}$  be defined as follows:

$$f(x) = \begin{cases} ax + b & \text{if } x \ge 0\\ \sin 2x & \text{if } x < 0 \end{cases}$$

For which values of a and b, f is continuous, but not differentiable?

- A. a = 2, b = 0
- B. a = 1, b = 1
- C. a = 2, b = 1
- D. a = 1, b = 0
- 65.  $\lim_{h \to 0} \frac{|h|}{h}$ 
  - A. 1
  - B. -1
  - C. Limit does not exist.
  - D. None of the above.
- 66. The widest interval in which the function  $f(x) = x^3 e^x$  is increasing is \_\_\_\_\_
  - A.  $(-\infty, -3)$
  - B. (-3, ∞)
  - C.  $(-\infty, 3)$
  - D.  $(3, \infty)$
- 67. If  $\tan 2A = \cot(A 18^{\circ})$  then the value of A is
  - A. 18°
  - B. 72°
  - C. 36°
  - D. 27°
- 68. Let  $y = \sqrt{x}$ . It is \_\_\_\_\_.
  - A. a function
  - B. a relation
  - C. not a relation
  - D. both a function and relation

- 69. If first operation can be done in *m* ways, second operation in *n* ways and third operation in *p* ways, then in how many ways all the three operations can be performed?
  - A. m+n+p
  - B.  $m \times n \times p$
  - C.  $m^{np}$
  - D. m-n-p
- 70. In a language survey among students, it is found that 80 students know English, 60 know French, 50 know German, 30 know English and French, 20 know French and German, 15 know English and German and 10 students know all the three languages. How many students know at least one language?
  - A. 135
  - B. 145
  - C. 155
  - D. None of the above
- 71. If mean and variance of a random variable following binomial distribution is 2 and 1 respectively, then *N*,the number of trials, is \_\_\_\_\_\_.
  - A. 1
  - B. 4
  - C. 2
  - D. 2
- 72. A pot contains 5 black balls and 3 red balls. Two balls are picked one after the other without replacement. The probability that both balls are black is \_\_\_\_\_\_.
  - A.  $\frac{5}{14}$
  - B.  $\frac{5}{7}$
  - C.  $\frac{5}{16}$
  - D.  $\frac{7}{8}$
- 73. Both husband and wife applied for jobs in the same company. The probability that husband would get the job is  $\frac{2}{5}$  and that of wife is  $\frac{4}{7}$ . The probability that both of them will not be selected is \_\_\_\_\_\_.
  - A.  $\frac{27}{35}$
  - B.  $\frac{8}{35}$
  - C.  $\frac{1}{35}$
  - D.  $\frac{34}{35}$

74.	In how many ways can a group consisting of 5 men an a total of 7 men and 3 women?	d 2 women be made out of
	A. 27	
	B. 63	
	C. 42	
	D. 6	
75.	s. A coin is tossed three times. What is the probability head?	that every time we a get a
	A. $\frac{1}{4}$	
	B. $\frac{2}{8}$	
	C. $\frac{1}{8}$	
	D. $\frac{5}{8}$	
76	5. Power of a statistical test is	
70.	A. the probability of correctly rejecting the null	hynothesis
	B. the probability of correctly accepting the true	
	C. the probability of drawing true conclusions f	• •
	D. None of the above.	
<i>7</i> 7·	7. Ramu tested whether average marks of two groups of staking random samples of marks from each group. He means and the p-value of the test statistic is 0.04. This	used t test to compare the
	A. 4% probability that average marks differ	
	B. 4% probability that average marks are equal	
	C. 4% error in the test	
	D. 4% probability that the test is incorrect.	
78.	3. If $X$ and $Y$ are independent random variables with $V(Y) = \sigma_y$ and $a$ and $b$ are constants, then $V(aX + bY)$	
	A. $\sigma_x + \sigma_y$	
	B. $a^2\sigma_x + b^2\sigma_y$	
	C. $a^2\sigma_x + b^2\sigma_y + 2abCov(X, Y)$	
	D. $a^2\sigma_x + b^2\sigma_y - 2abCov(X, Y)$	
79.	). Let $x_1, x_2,, x_n$ are independent random variables when $\sum_{i=1}^{n} x_i$ is	with 1 degrees of freedom,
	A. a $\chi^2$ distribution with mean $n$ variance $2n$	
	B. an F distribution with 1 and n degrees of fre	edom
	C. a $\chi^2$ distribution with 1 degrees of freedom	

D. None of the above

		$z^2 \sim F[1, n]$
		$z^2 \sim \chi^2[n]$
		$z^2 \sim N(0, n)$ None of the above
81.	is measu	as data on the height and weight of 100 persons in his village. Height ured in meter and weight is in kilograms. He wants to compare the on of height and weight. Which measure he has to use?
	A.	Variance
	B.	Standard deviation
	C.	Coefficient Variation
	D.	Any one of the above.
82.		$x_n$ are a random sample from a population with mean $\mu$ and variance $\sigma^2$ , $\frac{\sum_{i=1}^n x_i}{n}$ is distributed
	A.	with mean $\mu$ and variance $\sigma^2$
	B.	with mean $\frac{\mu}{n}$ and variance $\frac{\sigma^2}{2}$
		with mean $\mu$ and variance $\frac{\sigma^2}{n}$
	D.	with mean $\mu$ and variance $\frac{\sigma^2}{n^2}$
83.	An estin	nator of the parameter $\theta$ is said to be unbiased if
	A.	the mean of its sampling distribution is $\theta$
	B.	the mean of its sampling distribution is defined
	C.	it has the least variance
	D.	it does not contain any error or bias.
84.		nator of a parameter $\theta$ is said to be efficient if
		its sampling distribution has the least variance.
		its expected value is $\theta$
		its estimation needs least effort
		it converges to true value
85.	number can opt owner, v	nbers in a residential building are allotted using lottery method. A flat is a 3-digit number consisting of integers from 1 to 6 only. A flat owner for two numbers randomly. What is the probability that Ramu, a flat would get numbers 354 or 355?
		$\frac{1}{120}$
		$\frac{1}{108}$
		$\frac{1}{60}$
	D.	$\frac{1}{20}$

80. If  $z \sim t[n]$ , then \_\_\_\_\_\_.

- 86. A box has 5 black and 3 green shirts. One shirt is picked randomly and put in another box. The second box has 3 black and 5 green shirts. Now a shirt is picked from second box. What is the probability of it being a black shirt?
  - A. 4/9
  - B. 29/72
  - C. 8/72
  - D. 7/9
- 87. Three companies A, B and C supply 25%, 35% and 40% percent of notebooks to a school. Past experience shows that 5%, 4% and 2% of the notes books produced respectively by these companies are defective. If a note book was found to be defective, what is the probability that it was supplied by company A?
  - A. 44/69
  - B. 13/24
  - C. 25/69
  - D. 11/24
- 88. The level of significance of a statistical test is the \_\_\_\_\_
  - A. maximum allowable probability of type II error
  - B. maximum allowable probability of type I error
  - C. same as the confidence coefficient
  - D. same as the P-value
- 89. Let x and y be two variables,  $r_{xy}$  is the correlation coefficient between them,  $\beta_{yx}$  is the slope coefficient of the regression y on x and  $\beta_{xy}$  is defined similarly. If  $r_{xy} = 0$ , then \_\_\_\_\_\_.
  - A.  $\beta_{xy} \neq \beta_{yx}$
  - B.  $\beta_{xy} > 0 \leftrightarrow \beta_{yx} < 0$
  - C.  $\beta_{xy} = \beta_{yx} = 0$
  - D.  $\beta_{xy} > 0$ , and  $\beta_{yx} < 0$
- 90. Let the true regression model is  $y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + u$ , and you have specified  $y = a + bX_1 + v$ , where  $X_1$  and  $X_2$  are correlated.  $\hat{b}_{ols}$  from your specified model will be \_\_\_\_\_\_.
  - A. biased but consistent
  - B. unbiased but not minimum variance
  - C. biased and inconsistent
  - D. BLUE

A. 22%
B. 35%
C. 5%
D. 17%
92. By adopting inflation targetting, RBI aims to keep the inflation within the band of
A. 4+/-2
B. 5+/-2
C. 3+/-2
D. 6+/-1
93. FRBM Act was introduced to contain
A. inflation
B. exchange rate fluctuations
C. fiscal deficit
D. non-performing assets.
94. During the last five years (2013-14 to 2017-18), which sector did record surplus is the current account of India's balance of payment?
A. Gold
B. Manufacturing
C. Oil
D. Software and non-factor service
95. Between 2007-08 to 2015-16, saving rate in India declined by 6.3 percentage point Which sector does account for the major share of this decline?
A. Public sector
B. Household sector
C. Private Corporate sector
D. None of the above.
96. In 2016-17, R&D expenditure as percent of GDP in India was
A. 0.70%
B. 1.50%
C. 1.80%
D. 2.00%

91. Share of manufacturing in Indian GDP is around \_\_\_\_\_\_.

	A.	Switzerland,
	B.	Saudi Arabia
	C.	South Korea
	D.	China
98.	The top	remittance receiving country in the world is
	A.	China
	B.	Philippines
	C.	Mexico
	D.	India
99.	Which fo	oodgrain does account for largest area under cultivation in India in 2016-
	A.	Wheat
	B.	Rice
	C.	Jowar
	D.	Maize
100		tor accounting for the largest share in gross domestic saving during the 011-12 to 2015-16 is
	A.	Household sector
	B.	Private corporate sector
	C.	Public sector

D. None of the above

97. In 2016-17, with which country India has highest bilateral trade deficit?

## Place for rough work