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Registration No. :

Centre of Exam. :

Name of Candidate :

Signature of Invigilator**ENTRANCE EXAMINATION, 2018**

M.A. ECONOMICS (with specialization in World Economy)

[ Field of Study Code : EILM (202) ]

Time Allowed : 3 hours

Maximum Marks : 100

**INSTRUCTIONS FOR CANDIDATES**

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

- 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.
- Please darken the appropriate Circle of Question Paper Series Code on the Answer Sheet.**
- All questions are compulsory.
- Answer all 50 (fifty) 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.
- Each correct answer carries **2 (two)** marks. **There will be negative marking and 1 mark will be deducted for each wrong answer.**
- Answer written by the candidates inside the Question Paper will not be evaluated.
- Calculators may be used.
- Please use the space provided for Rough Work.
- 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**

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

Wrong	Wrong	Wrong	Wrong	Correct
<input type="radio"/> (b) <input type="radio"/> (c) <input checked="" type="radio"/> (d) <input type="radio"/> (a)	<input checked="" type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d) <input type="radio"/> (a)	<input type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d) <input checked="" type="radio"/> (a)	<input type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d) <input type="radio"/> (a)	<input type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d) <input type="radio"/> (a)

- Once marked, no change in the answer is allowed.
- Please do not make any stray marks on the Answer Sheet.
- Please do not do any rough work on the Answer Sheet.
- Mark your answer only in the appropriate space against the number corresponding to the question.
- Ensure that you have darkened the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

1. Suppose  $AB = \begin{bmatrix} 5 & 4 \\ -2 & 3 \end{bmatrix}$  and  $B = \begin{bmatrix} 7 & 3 \\ 2 & 1 \end{bmatrix}$ . Find  $A$ .

(a)  $\begin{bmatrix} 1 & -3 \\ -2 & 7 \end{bmatrix}$

(b)  $\begin{bmatrix} 11 & -17 \\ -27 & 41 \end{bmatrix}$

(c)  $\begin{bmatrix} 13 & 43 \\ 4 & 18 \end{bmatrix}$

(d)  $\begin{bmatrix} -3 & 13 \\ -8 & 27 \end{bmatrix}$

2. If the development process is characterized by what we have called 'modern sector enlargement', the relationship between GNP per capita and poverty in the distribution of income can be expressed as

(a) a strictly decreasing relationship

(b) a strictly increasing relationship

(c) no relationship

(d) first increasing and then decreasing

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**SPACE FOR ROUGH WORK**

3. What is the distance between the vectors  $u = \begin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix}$  and  $v = \begin{bmatrix} 2 \\ -1 \\ 2 \end{bmatrix}$ ?

- (a) 3    (b)  $\sqrt{10}$   
(c)  $\sqrt{11}$                                         (d)  $\sqrt{12}$

4. Child rearing involves costs and benefits to parents, and there are economic theories that show

- (a) fathers and mothers share these equally  
(b) there is a trade off to parents between quantity and quality of children  
(c) the income elasticity of demand for children is strongly negative  
(d) None of the above

5. In how many years will a sum of money triple itself when it is invested at an interest rate of 3% with continuous compounding?

- (a) Around 40 years  
(b) Around 36 years  
(c) Around 33 years  
(d) Around 30 years

6. In a fixed rent tenancy, risk is
- (a) borne by the tenant
  - (b) borne by the landlord
  - (c) shared between landlord and tenant
  - (d) None of the above
7. Which of the following must be true of a continuous function on  $(a, b)$ ?
- (a) The function achieves its maximum on  $(a, b)$
  - (b) The function is bounded
  - (c) If  $f(a) = 2$  and  $f(b) = 5$ , then  $f(c) = 3$ , for some  $c \in (a, b)$
  - (d) None of the above
8. Without adjusting for 'purchasing power parity', real GDP tends to understate income in developing economies by
- (a) underestimating saving
  - (b) ignoring government deficit spending
  - (c) omitting non-market transactions
  - (d) All of the above

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**SPACE FOR ROUGH WORK**

9. Find the rates of growth (rog) of variables  $X$  and  $Y$  when they are the following continuous functions of time  $t$  :

I.  $X = t^3$

II.  $Y = Ae^{\int_0^t r'(s) ds}$  where  $r'(s) = \frac{dr}{ds}$

(a) rog of  $Y$  is 3 and rog of  $X$  is  $r(t)$

(b) rog of  $Y$  is 3 and rog of  $X$  is  $\int_0^t r'(s) ds$

(c) rog of  $Y$  is  $\frac{3}{t}$  and rog of  $X$  is  $r(t)$

(d) None of the above

10. An increase in the marginal propensity to import will

(a) increase net exports

(b) reduce the effectiveness of expansionary fiscal policy on national income

(c) increase the open economy multiplier

(d) result in exchange rate overshooting

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**SPACE FOR ROUGH WORK**

11. Which of the following is a unit vector that is orthogonal (perpendicular) to the vector  $a = (1, -1, 2)$ ?
- (a)  $(1, -1, -1)$  (b)  $\left(-\frac{1}{\sqrt{3}}, -\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}\right)$
- (c)  $\left(\frac{1}{\sqrt{3}}, -\frac{1}{\sqrt{3}}, -\frac{1}{\sqrt{3}}\right)$  (d)  $\left(\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$
12. The rise in the equilibrium price and the reduction in equilibrium quantity demanded due to an imposition of a unit tax is higher
- (a) the more inelastic is the supply curve  
(b) the more elastic is the supply curve  
(c) the more inelastic is the demand curve  
(d) None of the above
13. Jai only consumes 2 goods, X and Y. Both goods have equal prices, which remain constant throughout. However, Jai's income keeps increasing. As his income increases, he continues to consume X and Y in exactly the same ratio as he did before. Then
- (a) X and Y must be perfect complements for Jai  
(b) Jai has utility function of the form  $U = XY$   
(c) X and Y must be perfect substitutes  
(d) X and Y may be either perfect complements, perfect substitutes, or Jai's preferences may be represented by utility function  $U = XY$

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SPACE FOR ROUGH WORK

14. Find the probability of a 4 turning up at least once in two tosses of a fair dice (with six faces marked 1 to 6).
- (a)  $\frac{1}{36}$  (b)  $\frac{1}{18}$   
(c)  $\frac{11}{36}$  (d)  $\frac{1}{3}$
15. Good  $X$  is being produced by only one firm, firm  $A$ . Now, suppose a second firm, firm  $B$  enters the industry and starts producing good  $X$ . Firm  $B$  finds that if it charges the price that firm  $A$  was originally charging, then it will make a loss. Which of the following could be true?
- (a) Good  $X$  is being produced in a natural monopoly  
(b) Good  $X$  is being produced in a regular, but contestable monopoly  
(c) Firms  $A$  and  $B$  are symmetric Bertrand duopolists  
(d) Firm  $B$  must have lower costs of production than firm  $A$
16. Box 1 contains 3 red and 5 white balls, Box 2 contains 4 red and 2 white balls. A ball is chosen at random from Box 1 and transferred to Box 2. Then a ball is drawn from Box 2. Find the probability that it is white.
- (a)  $\frac{3}{7}$  (b)  $\frac{3}{8}$   
(c)  $\frac{3}{9}$  (d)  $\frac{3}{10}$

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SPACE FOR ROUGH WORK

17. A discriminating monopolist sells the same good in two segregated markets, Market 1 and Market 2. Denote the prices of the good in the two markets by  $P_1$  and  $P_2$ . Denote the price elasticities of demand for the good in the two markets by  $e_1$  and  $e_2$ . Now, suppose that the price in Market 2 is double the price in Market 1. Which of the following are possible values of  $e_1$  and  $e_2$ ?
- (a)  $e_1 = \frac{1}{2}, e_2 = \frac{2}{3}$  (b)  $e_1 = 2, e_2 = 1$   
(c)  $e_1 = 2, e_2 = \frac{4}{3}$  (d)  $e_1 = 3, e_2 = 2$
18.  $A, B, C$  are independent events such that  $P(A) = 0.5, P(B) = 0.6, P(C) = 0.1$ . Then  $P(A^c \cap B^c \cup C)$  (where  $A^c$  and  $B^c$  are the complements of events  $A$  and  $B$ , respectively, in the sample space) is
- (a) 0.69 (b) 0.73  
(c) 0.71 (d) 1
19. Suppose there are three people in a district with different marginal benefits from improved air quality. The marginal willingness to pay for improved air quality for two of them is given by  $p_i = 20 - Q, i = 1, 2$  and for the third person is given by  $p_3 = 10 - Q$ , where  $Q$  refers to the level of air quality, and  $p_i$  refers to the price per unit of  $Q$  that individual  $i$  is willing to pay. Let marginal cost of improving air quality be  $5Q$ . What is the socially optimum level of air quality?
- (a)  $Q = 5$   
(b)  $Q = 3.33$   
(c)  $Q = 6.25$   
(d) None of the above

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**SPACE FOR ROUGH WORK**



20. Suppose that  $X$  is a random variable with the following distribution function :

$$\begin{aligned} F(x) &= 0 && \text{for } x < 0 \\ &= \frac{x}{8} && \text{for } 0 \leq x < 1 \\ &= \frac{2+x}{8} && \text{for } 1 \leq x < 2 \\ &= \frac{9+x}{12} && \text{for } 2 \leq x < 3 \\ &= 1 && \text{for } x \geq 3 \end{aligned}$$

Then  $P(1 \leq X \leq 2)$  is

- (a)  $\frac{1}{8}$  (b)  $\frac{3}{8}$   
(c)  $\frac{19}{24}$  (d)  $\frac{13}{24}$

21. A firm sells some output in a perfectly competitive market, where the price is 60 per unit, and some on a market in which it has a monopoly, with a demand function  $p_2 = 100 - q_2$ , where  $q_2$  is output in the monopoly market. Its total cost function is  $C = (q_1 + q_2)^2$ , where  $q_1$  is output in the competitive market. What is the profit maximizing output in the two markets, and price in the monopoly market?

- (a)  $q_1 = 10, q_2 = 20; p_2 = 80$   
(b)  $q_1 = 15, q_2 = 20; p_2 = 60$   
(c)  $q_1 = 10, q_2 = 25; p_2 = 70$   
(d) None of the above

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SPACE FOR ROUGH WORK

22. A random variable  $X$  has the following cumulative distribution function :

$$F(x) = 1 - e^{-x} - xe^{-x} ; \text{ for } 0 \leq x < \infty$$
$$= 0 ; \text{ elsewhere}$$

The mean and the mode of this distribution are

- (a) mean = 0, mode = 0
- (b) mean = 2, mode = 1
- (c) mean = 2, mode = 0
- (d) mean = 1, mode = 2

23. Given the utility function  $U(x_1, x_2) = x_2 + u(x_1)$ , where  $u$  is an increasing function of  $x_1$ , the effect of a change in income (holding prices fixed) on the demand for good 1 is

- (a) positive
- (b) 0
- (c) negative
- (d) None of the above

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SPACE FOR ROUGH WORK

24. Consider an IS-LM model. If the investment function is interest insensitive, then
- (a) the slope of the IS curve will be horizontal and monetary policy will be effective
  - (b) the slope of the IS curve will be horizontal and monetary policy will be ineffective
  - (c) the slope of the IS curve will be vertical and monetary policy will be effective
  - (d) the slope of the IS curve will be vertical and monetary policy will be ineffective
25. Let the cost function of a monopolist be given by  $C(Q) = cQ$ , where  $Q$  is output. Also let the monopolist face a linear demand function,  $P(Q) = A - bQ$ . The government imposes a quantity tax of 6 per unit of output. How much does the price rise?
- (a) 6
  - (b) 3
  - (c) 2
  - (d) None of the above

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SPACE FOR ROUGH WORK

26. Consider a short-run complete macro model as specified by the following equations :

I.  $Y = Y(N, \bar{K})$ , where  $Y$  is aggregate output,  $N$  labour and  $\bar{K}$  capital

II.  $P \frac{\partial Y}{\partial N} = w(N)$  for  $N < N_f$ , where RHS is Keynesian labour supply function and  $N_f$  is the full-employment level of labour

III.  $S(Y, r, \alpha) = I(Y, r, \beta)$  where  $r$  is interest rate,  $\alpha$  and  $\beta$  are shift parameters reflecting autonomous propensity to save and autonomous inducement to invest and  $S$  and  $I$  are the savings and investment functions, respectively

IV.  $\bar{M}^s = M^{dt}(PY) + M^{ds}(r)$ , where  $\bar{M}^s$  is constant money supply,  $M^{dt}$  is transactions demand for money function and  $M^{ds}$  is speculative demand for money function

An autonomous rise in the propensity to save ( $\alpha$ ) will lead to

- (a) a fall in  $Y$ , a fall in  $P$ , a fall in  $N$ , a fall in  $r$
- (b) a rise in  $Y$ , a fall in  $P$ , a rise in  $N$ , a fall in  $r$
- (c) a fall in  $Y$ , a rise in  $P$ , a fall in  $N$ , a rise in  $r$
- (d) a rise in  $Y$ , a rise in  $P$ , a rise in  $N$ , a rise in  $r$

27. In the macro-model described in Question No. 26 above, an autonomous rise in the inducement to invest ( $\beta$ ) will lead to

- (a) a fall in  $Y$ , a fall in  $P$ , a fall in  $N$ , a fall in  $r$
- (b) a rise in  $Y$ , a fall in  $P$ , a rise in  $N$ , a fall in  $r$
- (c) a fall in  $Y$ , a rise in  $P$ , a fall in  $N$ , a rise in  $r$
- (d) a rise in  $Y$ , a rise in  $P$ , a rise in  $N$ , a rise in  $r$

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SPACE FOR ROUGH WORK

28. Consider an amusement park. The park owner has a fixed cost  $T$  and a marginal cost of 0.50 per ride. Consumers have a demand curve  $Q = 10 - 2P$ . The Park owner designs a two-part tariff. How much should he be charging as fixed fee,  $F$ , and per unit price,  $P$ ?
- (a)  $F = 25$ ;  $P = 0.50$
  - (b)  $F = 42.75$ ;  $P = 2$
  - (c)  $F = 20.25$ ;  $P = 0.50$
  - (d) None of the above
29. The paradox of thrift maintains that an economy's desire to save more
- (a) lowers the equilibrium level of output and has no effect on the amount saved
  - (b) lowers the equilibrium level of output and the amount saved
  - (c) lowers the equilibrium level of output and increases the amount saved
  - (d) has no effect on the equilibrium level of output and increases the amount saved
30. Which of the following is true for a utility function of the form
- $$U(x_1, x_2) = x_2 + u(x_1)$$
- where  $u$  is an increasing function of  $x_1$ ?
- (a) The indifference curves are radial translates of one another
  - (b) The indifference curves are vertically parallel
  - (c) The Engel curves are straight lines through the origin
  - (d) None of the above

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SPACE FOR ROUGH WORK

31. Suppose Amit's true benefit from a public good is  $\frac{2}{5}$ , while Salim's true benefit is 1. The cost of building of the public good is 1 and is to be shared equally by Amit and Salim, if it is built. The government decides to build the bridge if the net social benefits based on Amit and Salim's reported values of their respective benefits is non-negative. The total benefit from the public good is the sum of individual benefits. Which of the following is true?
- (a) The socially optimal decision based on truthful reporting is to build the public good, while Amit has an incentive to misreport his true benefit
  - (b) The socially optimal decision based on truthful reporting is not to build the public good, while Amit has an incentive to report his true benefit
  - (c) The socially optimal decision based on truthful reporting is to build the public good, while Salim has an incentive to misreport his true benefit
  - (d) The socially optimal decision based on truthful reporting is not to build the public good, while Salim has an incentive to misreport his true benefit
32. In continuation of Question No. 31 above, suppose Amit can report his benefit from the public good as either 0 or  $\frac{2}{5}$ , while Salim can report either 1 or  $\frac{4}{5}$ . Which of the following is a weakly-dominant strategy equilibrium of the underlying game?
- (a) Both Amit and Salim report their true types
  - (b) Both Amit and Salim misreport
  - (c) Amit reports the truth, while Salim does not
  - (d) None of the above

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SPACE FOR ROUGH WORK

33. The value of the expenditure multiplier when marginal propensity to consume is 0.8 and income tax rate is 0.5 will be

- (a) 3.57 (b) 2.50  
(c) 1.67 (d) 1.47

34. (I) Indirect taxes violate which of the three conditions of Pareto optimality and (II) the rebate to producers on the indirect taxes that they paid on purchases of inputs from other firms under the new Goods and Services Tax (GST) ensures which condition of Pareto optimality will continue to hold under indirect taxation?

The answers to (I) and (II) are

- (a) (I) joint consumption and production efficiency and (II) the Walras law  
(b) (I) consumption efficiency and (II) joint consumption and production efficiency  
(c) (I) production efficiency and (II) joint consumption and production efficiency  
(d) (I) joint consumption and production efficiency and (II) production efficiency

35. An inflationary gap can be eliminated by

- (a) equal increases in net tax revenues and government spending  
(b) an increase in government spending and a decrease in lump sum taxes  
(c) equal decreases in net tax revenues and government spending  
(d) a decrease in lump sum taxes

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SPACE FOR ROUGH WORK

36. Automatic fiscal stabilizers
- (a) keep the government budget balanced
  - (b) keep the government high employment budget balanced
  - (c) help to reduce the severity of recessions and inflationary boom periods
  - (d) will cause tax revenues to rise in periods of recession
37. Within a fixed exchange rate system, the effect of an expansionary monetary policy action on the balance of payments will be to
- (a) worsen the balance on the capital account but improve the trade balance
  - (b) worsen the trade balance but improve the balance on the capital account
  - (c) improve both the trade balance and the balance on the capital account
  - (d) worsen both the trade balance and the balance on the capital account
38. Assuming perfect capital mobility, the balance of payments (BP) schedule is
- (a) vertical
  - (b) horizontal
  - (c) upward sloping
  - (d) downward sloping

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SPACE FOR ROUGH WORK



39. A difference between the classical and new classical model is that
- (a) classical economists assumed that labor suppliers knew the real wage, while the new classical economists assume they form a rational expectation of the real wage
  - (b) classical economists assumed that the money wage was flexible, while the new classical economists assume it was fixed
  - (c) classical economists were non-interventionists on policy questions, while the new classical economists are policy activists
  - (d) labor supply in the classical model is a function of the real wage, while labor supply depends on the money wage in the new classical model
40. A Keynesian consumption function differs from the permanent income hypothesis in that
- (a) a temporary windfall in income is saved if the consumption function is Keynesian, but is consumed if people follow the permanent income hypothesis
  - (b) a temporary windfall in income is consumed if the consumption function is Keynesian, but is saved if people follow the permanent income hypothesis
  - (c) people worry about their income relative to others in the permanent income hypothesis, but they don't if the consumption function is Keynesian
  - (d) the time profile of saving is constant over one's lifetime in the permanent income hypothesis, but not if the consumption function is Keynesian

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**SPACE FOR ROUGH WORK**

41. Which of the following series converges?

(a)  $\sum_{n=1}^{\infty} \frac{n^7}{6^n}$

(b)  $\sum_{n=1}^{\infty} \frac{n^3}{n^5 + 3}$

(c)  $\sum_{n=1}^{\infty} \frac{x^n}{n!}$

(d) All the three series above converge

42. The monetary authority can generate more money from a given increase in high-powered money by

(a) increasing the fractional reserve requirement in banks, and encouraging measures to withdraw more cash

(b) increasing the fractional reserve requirements in banks, and discouraging measures to withdraw more cash

(c) decreasing the fractional reserve requirement in banks, and discouraging measures to withdraw more cash

(d) decreasing the fractional reserve requirement in banks, and encouraging measures to withdraw cash

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SPACE FOR ROUGH WORK

43. Which of the following is counted in GDP?
- (a) The value of the services I perform at home while helping my mother with housework
  - (b) My contributions to charity
  - (c) My payment for a used car that I've bought this year
  - (d) The earnings of a foreign national working in our country
44. The Pigou effect
- (a) explains why investment depends on interest rates
  - (b) helps to explain why aggregate demand can be downward sloping even in a liquidity trap
  - (c) says that consumption should always be taxed
  - (d) explains why the aggregate supply curve is vertical in the long run
45. Informal lenders extend credit to the poor more often than formal lenders because
- (a) informal lenders do not face transaction costs and can therefore lend at affordable interest rates
  - (b) compared to commercial banks, informal lenders are less risk averse and charge lower interest rates
  - (c) compared to commercial banks, informal lenders can more easily circumvent informational asymmetries
  - (d) None of the above

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SPACE FOR ROUGH WORK

46. With reference to the table below, it is correct to state that

	Scenario I		Scenario II	
	US	Japan	US	Japan
Car ('000/man-day)	4	1	4	2
Computers ('000/man-day)	1	1	2	1

- (a) under I, US has absolute advantage in both goods and comparative advantage in cars
- (b) under II, US has absolute advantage in both goods and comparative advantage in cars
- (c) under I, US has absolute advantage and comparative advantage in cars
- (d) under II, US has absolute advantage and comparative advantage in cars
47. With trade, specialization in production is likely to be
- (a) complete with increasing costs and incomplete with constant costs
- (b) complete with constant costs and incomplete with increasing costs
- (c) complete with constant costs and either complete or incomplete with increasing costs
- (d) incomplete with both constant and increasing costs

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SPACE FOR ROUGH WORK

48. With reference to the table below, we can say that

	Country—A	Country—B
Wheat (bushels/man-day)	6	1
Cloth (yards/man-day)	2	12

- (a) country B will be willing to exchange 6 bushels of wheat for 6 yards for cloth, but not country A
- (b) country B will be willing to exchange 6 bushels of wheat for 12 yards of cloth, but not country A
- (c) both country A and country B will be willing to exchange 6 bushels of wheat for 6 yards of cloth
- (d) None of the above
49. Under the Heckscher-Ohlin model, if a labour-abundant country engaged in free trade decides to impose an import tariff of 10%, then we would expect
- (a) the wage and rent to increase by 10%
- (b) the wage to increase and rent to decrease by less than 10%
- (c) the wage and rent to decrease
- (d) the wage to decrease and rent to increase
50. A country can increase its welfare by imposing an import tariff if
- (a) it is small and importing labour-intensive goods
- (b) it is small and there is no retaliation
- (c) it is large and there is no retaliation
- (d) Both (a) and (b)

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SPACE FOR ROUGH WORK