Practice Exam Econ2152b–003
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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

(60 marks, 2 marks per each question.)

1) Primarily, macroeconomists use microeconomic principles to study 1) _____
A) long–run economic growth and employment policies.
B) long–run economic growth and business cycles.
C) short run and long run economic growth.
D) business cycles and trends in the stock market.
E) trends in the stock market and long–term economic growth.

2) The relationship between the level of growth of an economic variable, g_t, and its level, y_t, is best approximated as 2) _____
A) $g_t = \log y_t - \log y_{t-1}$.
B) $y_t = \log g_t - \log g_{t-1}$.
C) $\log g_t = y_t - y_{t-1}$.
D) $g_t = \log y_t + \log y_{t-1}$.
E) $g_t = \dfrac{y_t}{y_{t-1}}$.

3) The largest deviation in real per capita GDP from trend GDP occurred 3) _____
A) in the 1980s.
B) during World War II.
C) in the 1990s.
D) during the Great Depression and World War II.
E) during the post World War II period.

4) To be useful, macroeconomic models 4) _____
A) must be simple.
B) must be extremely realistic.
C) must be complete, accurate descriptions of the world.
D) provides a lot of intricate details.
E) never generates testable hypothesis.

5) Improvements in a country's standard of living are brought about in the long run by 5) _____
A) technological progress.
B) constructing more machines and buildings.
C) growth in the population.
D) taxes.
E) immigration policy.

6) GDP is published by Statistics Canada as part of the 6) _____
A) GDP Statistical Review.
B) Survey of Current Business.

C) Labour Force Statistics.
D) Current Population Survey.
E) National Income and Expenditure Accounts (NIEA).

7) Jim's Nursery produces and sells $1100 worth of flowers. Jim uses no intermediate inputs. He pays his workers $700 in wages, pays $100 in taxes and pays $200 in interest on a loan. Jim's contribution to GDP is _____
A) $1100. B) $1800. C) $2000. D) $900. E) $1000.

8) The value of a producer's output minus the value of all intermediate goods used in the production of that output is called the producer's _____
A) costs of production.
B) net output.
C) value added.
D) profit margin.
E) accounting profit.

9) Suppose that the government collects $3 million in taxes, pays $2 million in Employment Insurance benefits, pays $0.5 million in interest on the national debt, and pays workers $1 million to sit at their desks and work as little as possible. The government's contribution to GDP is _____
A) $1 million.
B) $0.
C) $1.5 million.
D) $3 million.
E) $3.5 million.

10) The income approach to calculating GDP is _____
A) net of taxes.
B) the sum of all consumer income earned.
C) all the spending on goods and services earned by consumer's income.
D) the sum of all incomes earned from production.
E) the sum of all business income earned.

11) The income–expenditure identity is best paraphrased as _____
A) all income is spent.
B) all spending generates income.
C) on average, government can spend no more than what it collects in income taxes.
D) on average, consumers cannot save.
E) all profits are used for investment spending.

12) To calculate value added, we need to subtract _____
A) the cost of domestic– and foreign–produced intermediate inputs.
B) only the cost of foreign–produced intermediate inputs.
C) only the cost of domestically–produced intermediate inputs.

D) the cost of all goods and services exported.
E) total imports.

13) The components of investment expenditures include 13) _____
A) investment in consumer's education.
B) investment in stocks and bonds.
C) residential investment.
D) investment in plant and equipment abroad.
E) investment in health care.

14) Government expenditures includes 14) _____
A) financial investment.
B) consumer spending.
C) federal defense spending.
D) residential spending.
E) inventory investment.

15) In Canada, real GDP is currently calculated using 15) _____
A) constant–inflation scheme.
B) a variable–weighting scheme.
C) an autoregressive scheme.
D) a chain–weighting scheme.
E) a fixed–weighting scheme.

16) Suppose that $g1$ represents the ratio of year 2 GDP to year 1 GDP, both valued at year 1 prices. 16) _____
Suppose that $g2$ represents the ratio of year 2 GDP to year 1 GDP, both valued at year 2 prices.
The ratio of chain–weighted year 2 GDP to chain–weighted year 1 GDP equals
A) $\sqrt{g2 / g1}$.
B) $(g1 + g2)/2$.
C) $(\sqrt{g1} + \sqrt{g2})/2$.
D) $(g1 \times g2)/2$.
E) $\sqrt{g1 \times g2}$.

17) The implicit GDP price deflator can be defined as 17) _____
A) the consumer price index.
B) (Real GDP / Nominal GDP) * 100.
C) (Nominal GDP / Real GDP) * 100.
D) Nominal GDP – Real GDP.
E) (Nominal GDP + Real GDP) / 2.

18) A business cycle peak is a 18) _____
A) relatively large negative deviation from trend in real GDP.
B) small positive deviation from trend in real GDP.
C) relatively large positive deviation from trend in real GDP.

D) small negative deviation from trend in real GDP.
E) minimum deviation from trend in real GDP.

19) Business cycle persistence refers to the property that 19) _____
A) real GDP tends to stay in the peaks and troughs of the business cycle.
B) booms and recessions last a long time.
C) real GDP is rarely exactly at trend.
D) business cycles are persistently hard to predict.
E) when real GDP is above trend, it tends to stay above trend, and when it is below trend, it tends to stay below trend.

20) Comovement can be discussed by 20) _____
A) looking at the frequency of the business cycle.
B) economic forecasting models.
C) looking at the peaks and troughs of the business cycle.
D) plotting the percentage deviations from trend in two economic variables.
E) looking at the amplitude of the business cycle.

21) Forecasting the future path of real GDP by exploiting past statistical relationships 21) _____
A) can be accomplished by the construction and use of an index of coincident variables.
B) can be accomplished by the construction and use of an index of leading variables.
C) is never very reliable.
D) can only be accomplished if there is a perfectly positive correlation.
E) can be accomplished by the construction and use of an index of lagging variables.

22) For the period 1961–2002, employment in Canada was 22) _____
A) procyclical and lagging.
B) countercyclical and lagging.
C) countercyclical and leading.
D) procyclical and leading.
E) coincident.

23) The principle that consumers and firms optimize 23) _____
A) only applies to perfectly competitive markets.
B) is helpful because it determines the available technology.
C) is helpful because it allows us to analyze how economic agents respond to changes in their environment.
D) is explained by their work–leisure choices.
E) is not helpful because some economic agents may behave irrationally.

24) For macroeconomic purposes, it is assumed that all consumers in the economy 24) _____
A) exhibit differences.
B) are diverse.
C) are identical.
D) exhibit different preferences.
E) are not identical.

25) A utility function 25) _____

A) is most useful if it can be influenced by others.
B) helps compare the relative happiness of two separate consumers.
C) needs to measure relative amounts of happiness for a single individual.
D) needs to measure the absolute level of happiness.
E) measures relative happiness and income of consumers.

26) Convexity of the indifference curve follows from 26) _____

A) the fact that consumption and leisure are normal goods.
B) the fact that income plays a significant role in consumption and leisure decisions.
C) the fact that consumers prefer diversity.
D) the fact that more is preferred to less.
E) the fact that consumers are indifferent to consumption and leisure goods.

The following question(s) deal with the Widget Company, which produces widgets. Widgets are produced according to:

Number of Widget Workers	Number of Widgets Produced
0	0
1	12
2	22
3	30
4	36
5	40

27) The marginal product of the second widget worker hired is 27) _____

A) 12. B) 8. C) 22. D) 2. E) 10.

28) If the real wage is equal to 7 widgets, and only an integer number of workers can be hired, the Widget company should hire 28) _____

A) 3 workers. B) 6 workers. C) 4 workers. D) 5 workers. E) 2 workers.

29) In an economic model, government spending is assumed to be 29) _____

A) exogenous.
B) not included in a closed economy.
C) endogenous.
D) only an public goods.
E) not included in an open economy.

30) A competitive equilibrium is a state of affairs in which 30) _____

A) output is maximized, and all agents are equally well–off.
B) output and total factor productivity are maximized.
C) all agents are equally well–off and agents are price–takers.
D) markets clear, and output is maximized.
E) agents are price–takers, and markets clear.

SHORT ANSWER. (20 marks each, 40 marks altogether)

1. Suppose a firm has a production function given by $Y = zK^{0.4}N^{0.6}$. The real wage rate is 0.6.

a) If z=1 and K=1, graph the production function. Compute the marginal product of labor and graph it. Find the firm's optimal amount of labor to employ.

b) If z=2 and K=1, graph the production function in the same graph with the production function in a). Compute the marginal product of labor and graph it in the same graph with the marginal product of labor in a).
Find the firm's optimal amount of labor to employ. Is it diminishing or increasing compared to a)?

2. The economy is made up of a firm and a consumer. There is no government and thus there is no need to submit tax. The consumer has a utility function with marginal rate of substitution of leisure for consumption as $MRS_{l,c} = (c/l)^{0.5}$. The firm has a production function given by $Y = K^{0.5}N^{0.5}$. The total hour available for the consumer is h=16. K=100. The consumer is also the owner of the firm, who gets profits from production.

a) If the real wage rate is 2.5, find how much labor the firm will demand. The firm will give the profit it earns to the consumer. Then find the budget constraint of the consumer and also how much labor the consumer will supply. Does the labor market clear?

b) If the labor market does not clear in a), will the real wage rate increase or decrease to get to the equilibrium?