Second Semester

Economics

(الاقتصـــــاد)

(Questions)



سلطنة عمان
وزارة التربية والتعليم



مركز القياس والتقويم التربوي
The Center for Educational Assessment and Measurement (CEAM)

امتحان دبلوم التعليم العام للمدارس الخاصة (ثنائية اللغة)

للعام الدراسي ١٤٤٦/١٤٤٥ هـ - ٢٠٢٣ / ٢٠٢٤ م

الفصل الدراسي الثاني - الدور الأول

تنبيه:
- المادة: الإقتصاد
- الأسئلة في (١٨) صفحة.
- زمن الإجابة: ثلاث ساعات.
- الإجابة في الورقة نفسها.

تعليمات مهمة:

- يجب الحضور إلى قاعة الامتحان قبل عشر دقائق على الأقل من بدء زمن الامتحان.
- يجب إحضار أصل ما يثبت الهوية وإبرازها للعاملين بالامتحانات.
- يجب الالتزام بالزي (الدشداشة البيضاء والمصر أو الكمة للذكور) والزي المدرسي للطالبات ، ويستثنى من ذلك الدارسون من غير العمانيين بشرط الالتزام بالذوق العام، ويمنع على جميع المتقدمات ارتداء النقاب داخل المركز وقاعات الامتحان.
- يحظر على الممتحنين اصطحاب الهواتف النقالة وأجهزة النداء الآلي وآلات التصوير والحواسيب الشخصية والساعات الرقمية الذكية والآلات الحاسبة ذات الصفة التخزينية والمجلات والصحف والكتب الدراسية والدفاتر والمذكرات والحقائب اليدوية والآلات الحادة أو الأسلحة أياً كان نوعها وأي شيء له علاقة بالامتحان.
- يجب على الممتحن الامتثال لإجراءات التفتيش داخل المركز طوال أيام الامتحان.
- يجب على الممتحن التأكد من استلام دفتر امتحانه، مغلفاً بغلاف بلاستيكي شفاف وغير ممزق ، وهو مسؤول عنه حتى يسلمه لمراقبي اللجنة بعد الانتهاء من الإجابة.
- يجب الالتزام بضوابط إدارة امتحانات دبلوم التعليم العام وما في مستواه وأية مخالفة لهذه الضوابط تعرضك للتدابير والإجراءات والعقوبات المنصوص عليها بالقرار الوزاري رقم ٥٨٨ / ٢٠١٥.
- يقوم المتقدم بالإجابة عن أسئلة الامتحان المقالية بقلم الحبر (الأزرق أو الأسود).
- يقوم المتقدم بالإجابة عن أسئلة الاختيار من متعدد بتظليل الشكل (○) وفق النموذج الآتي:

س - عاصمة سلطنة عمان هي:

○ القاهرة ○ الدوحة
● مسقط ○ أبوظبي

ملاحظة: يتم تظليل الشكل (●) باستخدام القلم الرصاص وعند الخطأ، امسح بعناية لإجراء التغيير.

صحيح ● **غير صحيح** ⊖ ◉ ◔ ⊗ ☑

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Question One: Multiple Choice (Items 1 – 12) (12 marks)

There are 12 multiple-choice items worth one mark each.
Shade in the bubble (⬭) next to the **correct** answer for each of the following items.

1) Which of the following is an effective policy for reducing cyclical unemployment?

- ⬭ Raising the minimum wage
- ⬭ Implementing wage controls
- ⬭ Increasing taxes on businesses
- ⬭ Increase in government spending.

2) The conditions that cause an increase in the money supply in an open economy is:

- ⬭ An increase in commercial bank lending.
- ⬭ A decrease in commercial bank lending.
- ⬭ A decrease in government spending.
- ⬭ More money leaving the country.

3) Based on the Kuznets' curve theory, which scenario most likely reflects the transition from an agricultural-based economy to an industrialized one?

- ⬭ A country with persistent rural poverty.
- ⬭ A country with high access to vocational industrial education.
- ⬭ A country experiencing an increase in agricultural productivity.
- ⬭ A country with limited access to education and healthcare services.

4) The tertiary sector can be defined as:

- ⬭ Industries that produce services.
- ⬭ Industries that manufacture products.
- ⬭ Industries that produce high technological products.
- ⬭ Industries involved in farming and extracting natural resources.

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Question One: (continued)

5) A natural increase in population is the number of:

- ☐ Deaths exceeding the number of live births.
- ☐ Live births exceeding the number of deaths.
- ☐ Deaths per thousand of the population in one year.
- ☐ Live births per thousand of the population in one year.

6) How many people are expected to come to live in a country with a net migration rate of 2, and a population of 50 million?

- ☐ 500
- ☐ 1,000
- ☐ 10,000
- ☐ 100,000

7) A trade bloc where there is free trade between member countries and a common external tariff on imports from non-members is known as a:

- ☐ Trade bloc
- ☐ Free trade area
- ☐ Customs union
- ☐ Trade agreement

8) Unemployment which exist when the aggregate demand for labour equals the aggregate supply of labour at current wage rate and price level is known as:

- ☐ Equilibrium unemployment.
- ☐ The natural rate of unemployment.
- ☐ The rate of voluntary unemployment.
- ☐ The rate of disequilibrium unemployment.

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Question One: (continued)

9) Which one of the following factors affect occupational mobility of labour:

- ▢ Family and friends.
- ▢ Ownership of a house.
- ▢ The norms and heritage.
- ▢ Barriers to entry and exit.

10) Revaluation in the context of exchange rates refers to:

- ▢ No change in the international price of a country's currency.
- ▢ A decrease in the international price of a country's currency.
- ▢ Fluctuation in the international price of a country's currency.
- ▢ An increase in the international price of a country's currency.

11) Which of the following best describes the Multidimensional Poverty Index (MPI)?

- ▢ A measure of income inequality within a country.
- ▢ A metric used exclusively to measure material deprivation.
- ▢ An index that assesses living standards based on income alone.
- ▢ A composite measure that evaluates living standards across various dimensions.

12) The restrictions on the growth of developing economies that arise from low levels of savings and investment are called:

- ▢ Business cycle
- ▢ Development traps
- ▢ Purchasing Power Parity
- ▢ Multidimensional Poverty index

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Question Two: Extended Response Items (13-23) (48 marks)

Answer ALL questions in the space provided.

13) The following grid represents several economic concepts:

Potential economic growth	Climate change	The gig economy
Actual economic growth	Negative output gap	Positive output gap

Choose the appropriate concept that matches the following definitions:

a. An increase in the productive capacity of the economy is known a _____. (1mark)

b. The labour market based on short-term contracts is called the _____. (1mark)

c. _____ is the situation where actual output is below potential output. (1mark)

d. _____ is a change in a region's weather over time. (1mark)

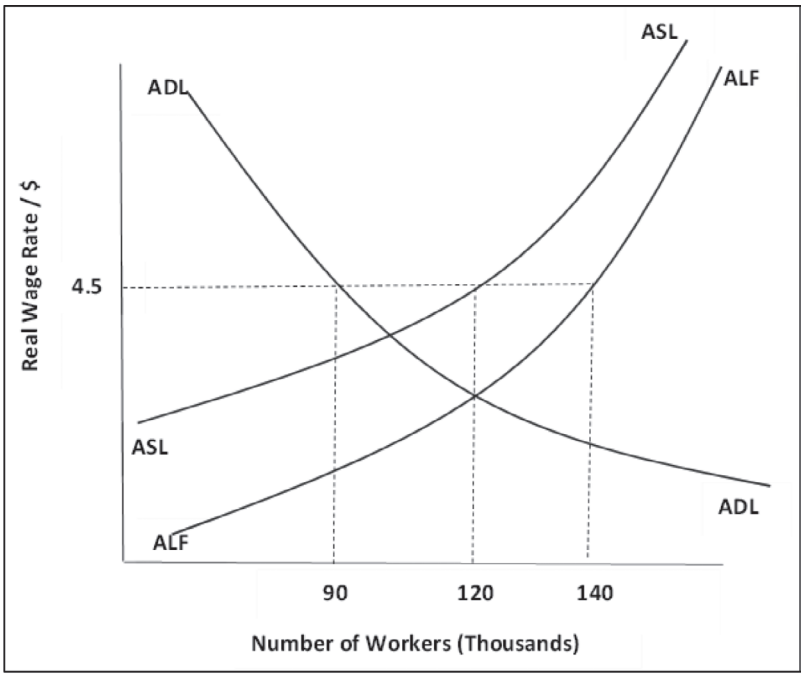
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Question Two: (continued)

14) The chart below shows the labour market of country (X):



Labour Market of country (X)

ADL: Aggregate Demand for Labour.

ASL: Aggregate Supply of Labour.

ALF: Aggregate Labour Force.

Study the chart, and answer the following questions:

a. What does the Aggregate Labour Force (ALF) refer to? (1 mark)

b. What is the amount of unemployment at the real wage rate of **W = $4.5**. (1 mark)

c. Determine the amount of disequilibrium unemployment. (1 mark)

d. Determine the amount of equilibrium unemployment. (1 mark)

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Question Two: (continued)

15. Al Ahli bank keeps a reserve ratio of **4%**. It receives an additional cash deposit of **$60,000**. (Show all your calculations)

a. State **TWO** types of deposit accounts. (2 marks)

b. Calculate the bank credit multiplier. (1 mark)

c. Calculate the potential increase in total deposits. (1 mark)

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Question Two: (continued)

16. The United Nations Development Program (UNDP) compiles the Human Development Index (HDI) of 193 nations in the annual Human Development Report. The index provides a measure of human development which is comparable among countries.

The table below shows the Human Development Index (HDI) and its components of three groups of countries (developed countries, developing countries, and least developed countries) for the year 2022:

Country	HDI (value)	Life expectancy at birth (years)	Expected years of schooling (years)	Mean years of schooling (years)	Gross National Income (GNI) per capita (2017 PPP $)
Developed countries	0.906	80.1	16.6	12.2	46,318
Developing countries	0.694	70.5	12.5	7.6	11,125
Least developed countries	0.542	64.9	10.1	5.0	3,006

Source: UN. UNDP, 2024

Using the data provided in the table above, answer the following questions:

a. Determine the relationship between HDI and economic development. (1 mark)

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Question Two: (continued)

b. Among the components of HDI, state TWO factors that primarily account for the income gap between developed and developing countries. (1 mark)

c. What policy implications would you propose for low-income economies to catch up with high-income nations? (2 marks)

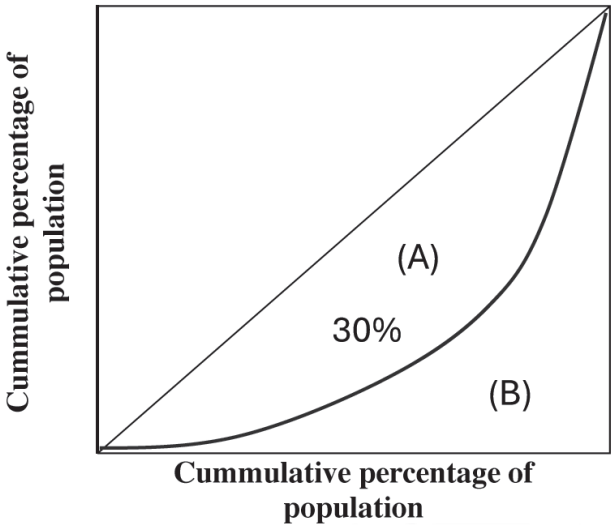
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Question Two: (continued)

17. The following graph shows the Lorenz curve of country (**S**):



Lorenz curve of country (S)

Based on the above graph above, answer the following questions:

a. Calculate the size (**in percent**) of area (**B**). (1 mark)

b. Calculate the Gini coefficient and the Gini index for country (**S**). (2 marks)

c. Describe the distribution of country (S) income among its population. (1 mark)

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Question Two: (continued)

18. Based on the relationship between country (A) and other countries (B, C, and D), the table below demonstrates some financial flows from and to country (A):

The type of Financial Flow	Amount (Million USD)
Untied Aid from country (B)	220
Tied aid from country (C)	140
Exports to Country (C)	360
Funds received from IMF as a support against a trade balance deficit	180
Aid from country (C)	250
Grant received from country (D)	100
Fund received from the World Bank to develop rural areas	410
FDI received from Sony to establish a factory in country (A)	830

Study the information provided in the table above, and answer the following questions:

a. Define bilateral aid. (1 mark)

b. Name an international organization that provides financial aid to low and middle - income countries. (1 mark)

c. Calculate the amount of money (in million USD) received by country (**A**) as multilateral aid. (1 mark)

d. Calculate the amount of money (in million USD) received by country (**A**) as Bilateral aid. (1 mark)

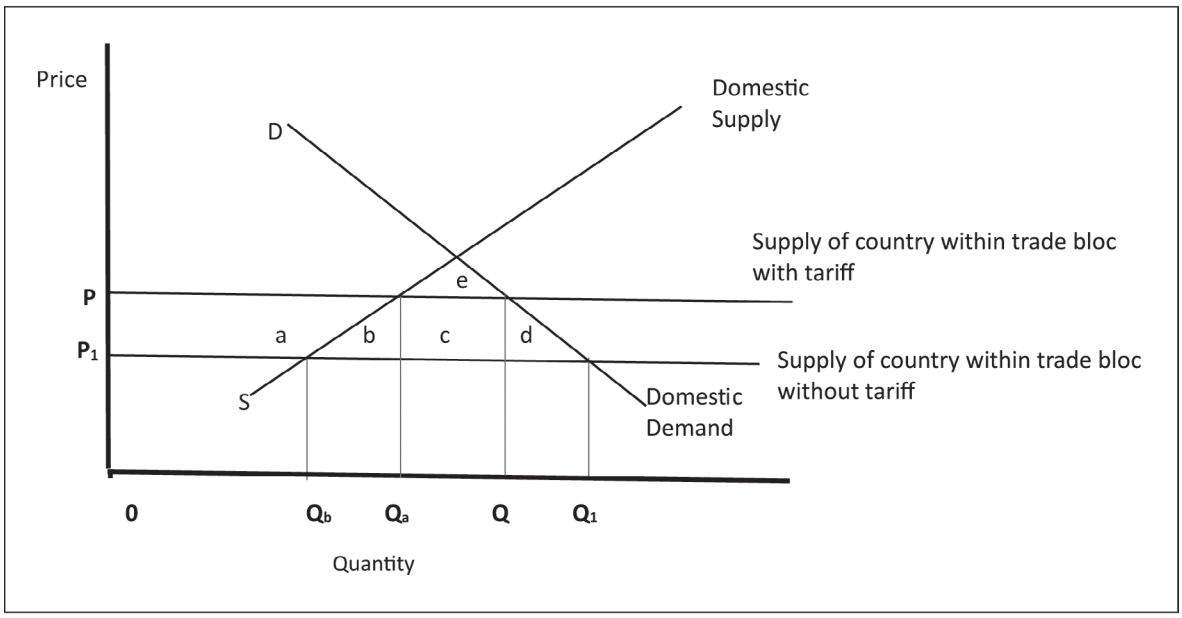
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Question Two: (continued)

19. Based on the graph below, answer the following questions:



The Effect of Trade Creation

a. State **one** globalization indicator. (1 mark)

_____

_____

b. State **one** consequence of globalization. (1 mark)

_____

_____

_____

c. Determine the amounts of imports after the removal of tariffs. (1 mark)

_____

_____

d. Determine the area that represents the trade creation. (1 mark)

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Question Two: (continued)

20. Analyse the dual impact of foreign aid on economic growth and development in poor countries, considering both its benefits and challenges. (3 marks)

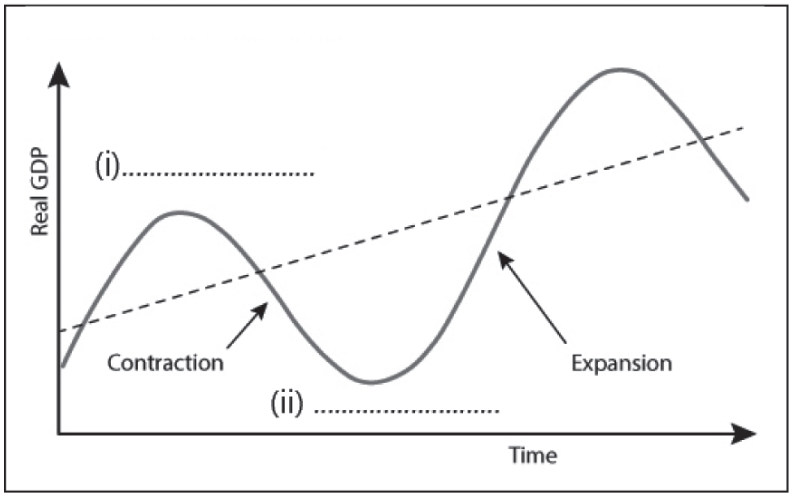
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Question Two: (continued)

21. Economies can grow smoothly over time but there can be periods when there are notable fluctuations in real GDP. The graph below shows fluctuations in economic activities which are known as a business cycle (or trade cycle): (5 marks)



Business Cycle

a. Indicate the peak and trough points in the graph.

(i) _____

(ii) _____

b. Analyze any **ONE** factor that contributes to fluctuations in a business cycle.

_____

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Question Two: (continued)

c. Discuss how automatic stabilizers work during economic downturns.

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Question Two: (continued)

22. Consider the following scenarios: (6 marks)

Scenario 1	The money supply in an economy is $5000, the velocity of money is 5, and the price level at the economy is 100.
Scenario 2	The central bank increases the money supply by 20%. The velocity of money and real output remain unchanged

a. In reference to **Scenario 1**, calculate the output of the economy using the Fisher equation.

b. Based on **Scenario 2**, answer the questions below:

(i) Determine the effect of this decision on the price level according to the quantity theory of money.

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Question Two: (continued)

(ii) How does the result obtained in (b-i) align with the monetarist perspective on the causes of inflation?

(iii) Compare between the Keynesian and the monetarist perspectives regarding the primary focus of government policies, specifically in terms of prioritizing between reducing unemployment and controlling inflation.

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Question Two: (continued)

23. The exchange rate between the United Kingdom's (**UK**) British pound (**£**) and the United States of America's (**USA**) US dollar (**$**) is 1.5, meaning 1-pound equals 1.5 US dollars.

The UK exports 60 units to the USA at a unit price of £20 (which is equivalent to $30 when converted to US dollars). Conversely, it imports 100 units from the USA at a unit price of $30 (£20 if converted to pound sterling). (6 marks)

In the short run, the Price Elasticity of Demand (PED) for UK exports is as follows:

Exports	Imports
-0.3	-0.5

a. Calculate **UK exports revenue**, **imports expenditure,** and **trade balance** in pounds.

b. Assuming a **50%** depreciation of the pound sterling (1-pound equals 1 US dollar), if the new exports revenue = **£** 1380, and new imports expenditure = **£** 2250, Calculate the new **UK** trade balance.

c. Explain the reason behind the lack of improvement in the trade balance despite the British pound's depreciation.

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Question Two: (continued)

d. What is the expected impact (without calculation) on the trade balance in the long run if the PED for UK exports and imports were -0.5 and -1.2, respectively.

[End of the Examination]

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امتحان دبلوم التعليم العام للمدارس الخاصة (ثنائية اللغة)

للعام الدراسي ١٤٤٦/١٤٤٥ هـ - ٢٠٢٤/٢٠٢٣ م

الفصل الدراسي الثاني- الدور الثاني

تنبيه:
- المادة: الإقتصاد
- الأسئلة في (١٤) صفحة.
- زمن الإجابة: ثلاث ساعات.
- الإجابة في الورقة نفسها.

تعليمات مهمة:

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- يجب الالتزام بضوابط إدارة امتحانات دبلوم التعليم العام وما في مستواه وأية مخالفة لهذه الضوابط تعرضك للتدابير والإجراءات والعقوبات المنصوص عليها بالقرار الوزاري رقم ٥٨٨ / ٢٠١٥.
- يقوم المتقدم بالإجابة عن أسئلة الامتحان المقالية بقلم الحبر (الأزرق أو الأسود).
- يقوم المتقدم بالإجابة عن أسئلة الاختيار من متعدد بتظليل الشكل (○) وفق النموذج الآتي:

س – عاصمة سلطنة عمان هي:

○ القاهرة ○ الدوحة

● مسقط ○ أبوظبي

ملاحظة: يتم تظليل الشكل (●) باستخدام القلم الرصاص وعند الخطأ، امسح بعناية لإجراء التغيير.

صحيح ● **غير صحيح** ⊖ ◉ ◔ ✗ ✓

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Question One: Multiple Choice (Items 1 – 12) (12 marks)

Shade in the bubble (⬭) next to the **correct** answer for each of the following items.

1) The tertiary sector can be defined as:

- ⬭ Industries that produce services.
- ⬭ Industries that manufacture products.
- ⬭ Industries that produce high technological products.
- ⬭ Industries involved in farming and extracting natural resources.

2) Which of the following is an effective policy for reducing frictional unemployment?

- ⬭ Raising the minimum wage
- ⬭ Implementing wage controls
- ⬭ Increasing taxes on businesses
- ⬭ Providing job training programs

3) The output of goods and services hidden from the authorities is called the:

- ⬭ Growth Rate
- ⬭ Open Economy
- ⬭ Shadow Economy
- ⬭ Aggregate Demand

4) A natural decrease in population is the number of:

- ⬭ live births per thousand of the population in one year.
- ⬭ deaths per thousand of the population in one year.
- ⬭ deaths exceeding the number of live births.
- ⬭ live births exceeding the number of deaths.

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Question One: (continued)

5) What is revaluation in the context of exchange rates?

- ☐ It refers to a change in the monetary policy of a country.
- ☐ It refers to maintaining the value of a country's currency at a fixed rate.
- ☐ It refers to an increase in the value of a country's currency relative to other currencies.
- ☐ It refers to a decrease in the value of a country's currency relative to other currencies.

6) Which of the following best describes the Multidimensional Poverty Index (MPI)?

- ☐ A composite measure that evaluates living standards across various dimensions.
- ☐ An index that assesses living standards based on income alone.
- ☐ A metric used exclusively to measure material deprivation.
- ☐ A measure of income inequality within a country.

7) At the current wage rate, Country X has an aggregate supply of labor of 30 million and an aggregate demand for labor of 22 million. Given this scenario, which type of unemployment is present?

- ☐ Natural unemployment
- ☐ Involuntary unemployment
- ☐ Equilibrium unemployment
- ☐ Disequilibrium unemployment

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Question One: (continued)

8) How many people are expected to come to live in a country with a net migration rate of 4 and a population of 25 million people?

- ☐ 100000
- ☐ 13500
- ☐ 75000
- ☐ 7500

9) Which of the following conditions causes **an increase** in the money supply in an open economy?

- ☐ An increase in government spending.
- ☐ A decrease in commercial bank lending.
- ☐ An increase in commercial bank lending.
- ☐ Less money entering than leaving the country.

10) A "**Customs union**" could be best defined as:

- ☐ A regional group of countries that have entered into a trade agreement.
- ☐ A trade bloc where member governments agree to remove trade restrictions among themselves.
- ☐ A trade bloc which involves member countries operating the same currency, having one exchange rate and the same interest rate.
- ☐ A trade bloc where there is free trade between member countries and a common external tariff on imports from non-members.

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Question One: (continued)

11) Which of the following statements best describes the "**Natural Rate of Unemployment**"?

- ☐ It represents the level of unemployment caused by temporary disruptions in the labor market due to factors like technological advancements.
- ☐ It is the rate to which the economy is expected to return in the long term, consistent with a stable inflation rate, according to New Classical economists.
- ☐ It is the rate of unemployment observed when the economy is operating below its potential output level.
- ☐ It signifies the unemployment rate prevailing during economic booms when demand for labor is high.

12) Based on the Kuznet's curve theory, which of the following scenarios is most likely to reflect the transition from an agricultural-based economy to an industrialized one?

- ☐ A country witnessing a shift from low-skilled agricultural jobs to higher-skilled industrial jobs.
- ☐ A country experiencing a surge in agricultural productivity and a decline in income inequality.
- ☐ A country with persistent rural poverty and limited access to education and healthcare services.
- ☐ A country where rural areas see substantial economic growth while urban areas stagnate.

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Question Two: Extended Response (Items 13 – 23) (48 marks)

Write your answer for each of the following questions in the space provided.

13) Al Rajhi bank keeps a reserve ratio of 5%. It receives an additional cash deposit of $50,000.

a. Define the following concepts:

(i) Reserve ratio. (1 mark)

(ii) Capital ratio. (1 mark)

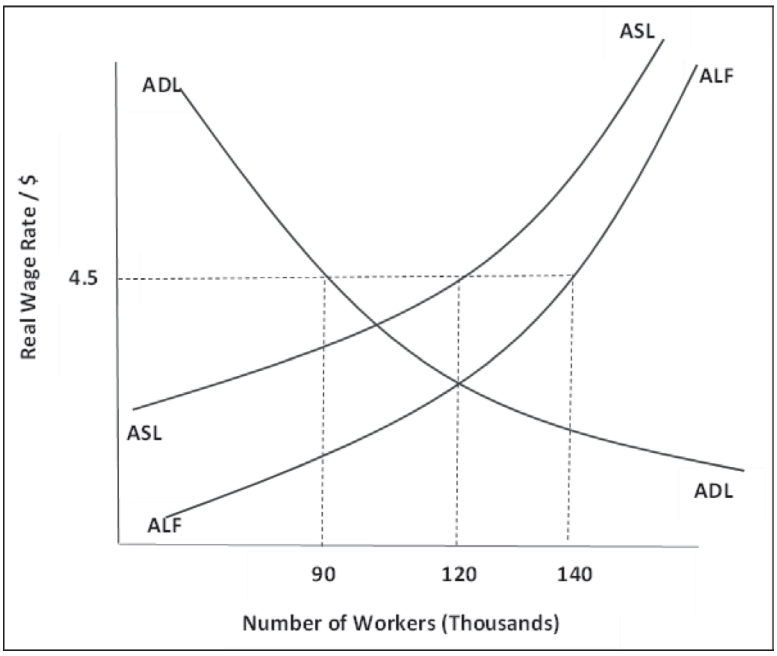
b. Calculate the bank credit multiplier. (1 mark)

c. Calculate the potential increase in total deposits. (1 mark)

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Question Two: (continued)

14) The figure below shows the labour market of country (**X**):



ADL:Aggregate Demand for Labour.
ASL: Aggregate Supply of Labour.
ALF: Aggregate Labour Force.

Study the figure, and answer the following questions:

a. The unemployment which exists when aggregate demand of labour equals aggregate supply of labour is called _____ (1 mark)

b. Determine the total amount of total unemployment at the real wage rate W = $4.5. (1 mark)

c. Determine the amount of disequilibrium unemployment. (1 mark)

d. Determine the amount of equilibrium unemployment. Are workers experiencing voluntary or unvoluntary unemployment? (1 mark)

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Question Two: (continued)

15) The following network represents several concepts:

Potential economic growth	Global warming	The Gig economy
Actual economic growth	Negative output gap	Positive output gap

Choose the appropriate concept that matches the following definitions:

a. _____ is a rise in the world's temperature. (1 mark)

b. An increase in the productive capacity of the economy is known as _____ (1 mark)

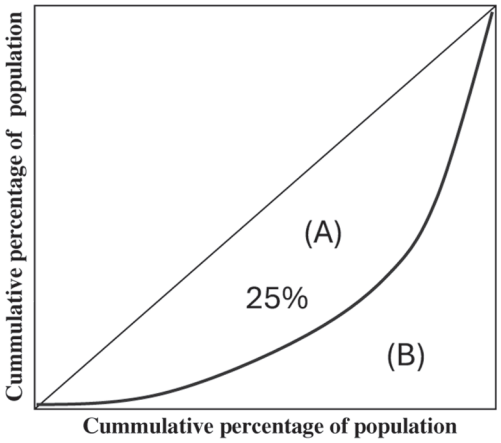
c. The situation where the actual output is more than the potential output refers to _____ (1 mark)

d. _____is an increase in real Gross Domestic Product (GDP). (1 mark)

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Question Two: (continued)

16) The following graph shows the Lorenz curve of country **(Y)**:



Lorenz curve of country (Y)

Study the graph and answer the following questions:

a. Calculate the size (in percent) of area (B) in the diagram above. (1 mark)

b. Calculate the **Gini coefficient** and the **Gini index** for country (Y). (2 marks)

c. Describe the distribution of country (Y) income among its population. (1 mark)

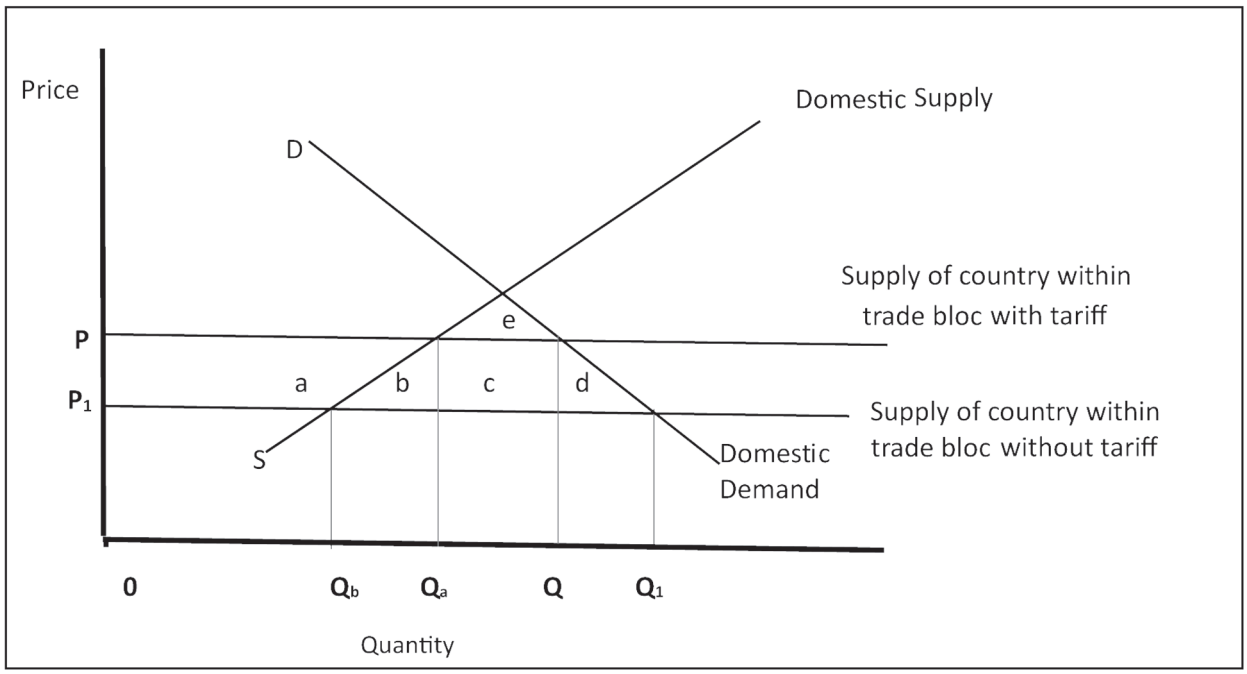
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Question Two: (continued)

17) Based on the following graph, answer the questions below:



a. State **TWO** causes of globalisation? (2 marks)

b. Determine the amount imported after the removal of tariffs. (1 mark)

c. Determine the area that represents the trade creation. (1 mark)

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Question Two: (continued)

18) Based on the relationship between country (A) and other countries (B, C, and D), the table below demonstrates some financial flows from and to country (A):

The Type of Financial Flow	Amount (Million USD)
Untied Aid from country (B)	200
Tied aid from country (C)	120
Exports to Country (C)	340
Funds received from IMF as a support against a trade balance deficit	160
Aid from country (C)	230
Grant received from country (D)	80
Funds received from the World Bank to develop rural areas	390
FDI received from Sony to establish a factory in country (A)	810

Study the information provided in the table, and answer the following questions:

a. Define multilateral aid. (1 mark)

b. Name an international organization that provides financial aid to country (A). (1 mark)

c. Calculate the value of the multilateral aid received by country (A). (1 mark)

d. Calculate the value of the Bilateral aid received by country (A). (1 mark)

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Question Two: (continued)

19) The table below demonstrates data for two hypothetical countries; Country **A** and Country **B**, each characterized by their distinct economic features:

Country	Real GDP (in billions)	Population (in millions)	GDP per head (USD)	GDP per capita PPP (USD)
Country A	$500	50	-	$35,000
Country B	$800	-	$8,000	$25,000

Based on the data provided above, answer the following questions:

a. Calculate real GDP per head for Country (**A**) using the data provided in the table. (2 marks)

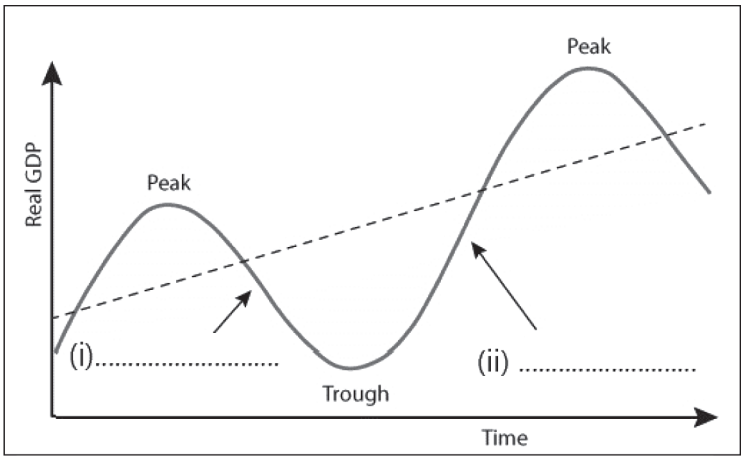
b. How would you compare the living standards between citizens in Country **A** and Country **B**? (2 marks)

20) Demonstrate **Three** aims of the International Monetary Fund (IMF). (3 marks)

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Question Two: (continued)

21) Economies can grow smoothly over time but there can be periods when there are notable fluctuations in real GDP. Fluctuations in the growth of actual output around the trend growth in productive potential are known as a business cycle (or trade cycle). (5 marks)



Business Cycle

a. Indicate the Upturn and Downturn phases in the graph.

(i) _____

(ii) _____

b. Discuss how automatic stabilizers work during an economic downturn.

_____

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Question Two: (continued)

22) Consider two countries, the United Kingdom (UK) and the United States of America (USA).
Initially, the exchange rate between the British pound (£) and the US dollar ($) is 1.5, meaning 1-pound equals 1.5 US dollars.
The UK exports 100 units to the USA at a unit price of £20 (which is equivalent to $30 when converted to US dollars). Conversely, it imports 120 units from the USA at a unit price of $30 (£20 if converted to pound sterling). (6 marks)

In the short run, the price elasticities of demand (PED) for UK exports and imports are as follows:

PED Exports	PED Imports
-0.4	-0.5

a. Calculate UK exports revenue, imports expenditure, and trade balance in pounds.

b. Assuming a 50% depreciation of the pound sterling (1-pound equals 1 US dollar), if the new export revenue = £2400, and the new import expenditure = £2700. Calculate the new UK trade balance.

c. Explain the reason behind the trade balance not improving despite the depreciation of the British pound.

d. Determine the impact (without calculation) on the trade balance in the long run if the PED for UK exports and imports were -0.5 and -1.2, respectively.

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Question Two: (continued)

23) Consider the following scenarios: (6 marks)

Scenario 1	The money supply in an economy is $400 billion, the velocity of money is 5, and the economy's real output is $1 trillion.
Scenario 2	The central bank increases the money supply by 20%. The velocity of money and real output remain unchanged.

a. In reference to **Scenario 1**, calculate the economy's nominal GDP using the Fisher equation.

b. Based on **Scenario 2**, answer the below questions:

(i) Determine the effect of the central bank's decision on the price level according to the quantity theory of money.

(ii) How does the result obtained in (b-i) align with the monetarist perspective on the causes of inflation?

(iii) Compare between the Keynesian and the monetarist perspectives regarding the primary focus of government policies, specifically in terms of prioritizing between reducing unemployment and controlling inflation.

[End of the Examination]

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امتحان دبلوم التعليم العام للمدارس الخاصة (ثنائية اللغة)

للعام الدراسي ١٤٤٤ هـ - ٢٠٢٢ / ٢٠٢٣ م

الدور الأول - الفصل الدراسي الثاني

تنبيه:
- المادة: الإقتصاد
- الأسئلة في (١٢) صفحة.
- زمن الإجابة: ثلاث ساعات.
- الإجابة في الورقة نفسها.

تعليمات مهمة:

- يجب الحضور إلى قاعة الامتحان قبل عشر دقائق على الأقل من بدء زمن الامتحان.
- يجب إحضار أصل ما يثبت الهوية وإبرازها للعاملين بالامتحانات.
- يجب الالتزام بالزي (الدشداشة البيضاء والمصر أو الكمة للذكور) والزي المدرسي للطالبات ، ويستثنى من ذلك الدارسون من غير العمانيين بشرط الالتزام بالذوق العام، ويمنع على جميع المتقدمات ارتداء النقاب داخل المركز وقاعات الامتحان.
- يحظر على الممتحنين اصطحاب الهواتف النقالة وأجهزة النداء الآلي وآلات التصوير والحواسيب الشخصية والساعات الرقمية الذكية والآلات الحاسبة ذات الصفة التخزينية والمجلات والصحف والكتب الدراسية والدفاتر والمذكرات والحقائب اليدوية والآلات الحادة أو الأسلحة أياً كان نوعها وأي شيء له علاقة بالامتحان.
- يجب على الممتحن الامتثال لإجراءات التفتيش داخل المركز طوال أيام الامتحان.
- يجب على الممتحن التأكد من استلام دفتر امتحانه، مغلفاً بغلاف بلاستيكي شفاف وغير ممزق ، وهو مسؤول عنه حتى يسلمه لمراقبي اللجنة بعد الانتهاء من الإجابة.
- يجب الالتزام بضوابط إدارة امتحانات دبلوم التعليم العام وما في مستواه وأية مخالفة لهذه الضوابط تعرضك للتدابير والإجراءات والعقوبات المنصوص عليها بالقرار الوزاري رقم ٥٨٨ / ٢٠١٥.
- يقوم المتقدم بالإجابة عن أسئلة الامتحان المقالية بقلم الحبر (الأزرق أو الأسود).
- يقوم المتقدم بالإجابة عن أسئلة الاختيار من متعدد بتظليل الشكل (○) وفق النموذج الآتي:

س - عاصمة سلطنة عمان هي:

○ القاهرة ○ الدوحة
● مسقط ○ أبوظبي

ملاحظة: يتم تظليل الشكل (●) باستخدام القلم الرصاص وعند الخطأ، امسح بعناية لإجراء التغيير.

صحيح ● **غير صحيح** ⊖ ◉ ◔ ⊗ ☑

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Question One: Multiple Choise (Items 1 – 6) (6 marks)

There are 6 multiple-choice items worth one mark each.
Shade in the bubble (○) next to the **correct** answer for each of the following items.

1. What is the main objective of policies aimed at promoting inclusive economic growth?

- ○ To benefit the wealthy and influential members of society.
- ○ To increase income inequality among society members.
- ○ To ensure that economic growth benefits all members of society.
- ○ To prioritize economic growth over environmental sustainability.

2. Which of the following policies is aimed at reducing frictional unemployment?

- ○ Implementing minimum wage laws.
- ○ Providing retraining programs for workers.
- ○ Offering tax incentives to businesses.
- ○ Reducing unemployment benefits.

3. In what ways can unemployment affect the economy?

- ○ It can lead to a decrease in aggregate demand and economic growth.
- ○ It can lead to an increase in social welfare spending.
- ○ It can lead to a decrease in tax revenues.
- ○ All of the above.

4. Which of the following best describes real exchange rates?

- ○ Exchange rates adjusted for inflation.
- ○ Exchange rates adjusted for changes in GDP growth rate.
- ○ Exchange rates based on actual transactions in the foreign exchange market.
- ○ Exchange rates that only include the value of goods and services traded between countries.

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Question One: (continued)

5. Which of the following best illustrates the Kuznets Curve concept?

- ☐ A country with a low level of economic development and high levels of income inequality.
- ☐ A country with a high level of economic development and low levels of environmental degradation.
- ☐ A country with a high level of economic development and high levels of education attainment.
- ☐ A country experiencing an inverted U-shaped relationship between income inequality and economic development.

6. Which of the following is NOT a form of foreign aid?

- ☐ Grants.
- ☐ Loans.
- ☐ Remittances.
- ☐ Technical assistance.

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Question Two: Fill in the Blank (Items 7 – 12) (6 marks)

Fill in the Blanks with the following words. There are four extra words.

Growth	Optimum	Equilibrium	Business cycle	Unemployment rate
Inflation	Frictional	Output gap	Customs unions	Economic growth

7. The difference between actual and potential output is known as the _____.

8. _____ refers to fluctuations of the economy between periods of expansion and contraction.

9. _____ unemployment is a type of unemployment that arises when workers are searching for new jobs or are transitioning from one job to another.

10. The quantity theory of money links _____ in an economy to changes in the money supply.

11. _____ population is the ideal size of a population for a country given the standard of living that can be achieved with the resources available.

12. A _____ is a trade bloc where there is free trade between member countries and a common external tariff on imports from non-members.

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Question Three: Short Response (Items 13 – 20) (16 marks)

Write your answer for each of the following questions in the space provided.

13. Define sustainable economic growth. (2 marks)

14. What is meant by the natural rate of unemployment? (2 marks)

15. Describle disequilibrium unemployment. llustrate your answer with a graph. (2 marks)

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Question Three: (continued)

16. A bank keeps a reserve ratio of 4%. It receives an additional cash deposit of $50,000.

a. Calculate the credit multiplier. (1 mark)

b. Calculate the potential increase in total deposits. (1 mark)

17. The exchange rate between the US dollar and the British pound is currently 1 USD = 0.72 GBP. The US consumer price index is equal to 105 and the UK consumer price index is 101.

What is the real exchange rate? (2 marks)

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Question Three: (continued)

18. Demographic data from a country XYZ for the year 2022 are as follows:

- Total population at the beginning of the year: 10,000,000
- Total number of births during the year: 110,000
- Total number of deaths during the year: 70,000

Using the above data, answer the following questions:

a. What is the birth rate in Country XYZ in 2022? (0.5 mark)

b. What is the death rate in Country XYZ in 2022? (0.5 mark)

c. What is the natural increase in population in Country XYZ in 2022? (1 mark)

19. What is export-led growth? (2 marks)

20. Analyze the difference between trade creation and trade diversion. (2 marks)

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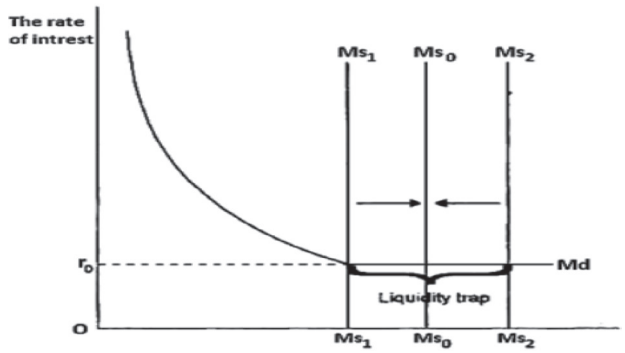
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Question Four: Extended Response (Items 21 – 25) (20 marks)

Write your answer for each of the following questions in the space provided.

21. Explain the phases of the business cycle and the factors that can cause a business cycle to occur. (4 marks)

22. What is the liquidity trap and how can it affect monetary policy effectiveness? Illustrate your answer with the help of a graph. (4 marks)



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Question Four: (continued)

23. Explain the Marshall Lerner condition and the J-curve effect. Discuss how they are related. (4 marks)

24. The table below provides data about the distribution of income in the USA, segmented into quintiles:

Income group	Percentage share of income	Cumulative percentage of income
Poorest 20%	3.1%	3.1%
Next poorest 20%	8.4%	11.5%
Middle 20%	14.5%	26.0%
Next richest 20%	23.2%	49.2%
Richest 20%	50.8%	100%

a. What is the percentage share of income for the lowest 40% of the population in the USA? (1 mark)

b. What is the percentage share of income for the highest 20% of the population in the USA? (1 mark)

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Question Four: (continued)

c. Define the Gini coefficient. (1 mark)

d. The Gini coefficient in the USA is equal to 0.39. What does this mean? (1 mark)

25. List two possible causes and two potential consequences of external debt. Suggest two policy measures that a developing country with a high level of external debt could implement to address the issue. (4 marks)

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Question Five: Case Studies (Items 26 – 31) (12 marks)

Write your answer for each of the following questions in the space provided.

Case study 1 **(6 marks)**

Suppose the money supply in an economy is $500 billion, the velocity of money is 5, and the economy's real output is $1 trillion.

26. Calculate the economy's nominal GDP using the equation of exchange. (2 marks)

27. Suppose the central bank increases the money supply to $600 billion.

If the velocity of money remains the same.

a. What will be the new nominal GDP? (1 mark)

b. What will be the new real output? (1 mark)

28. How does the quantity theory of money explain the relationship between changes in the money supply and changes in the overall price level? (2 marks)

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Question Five: (continued)

Case study 2 **(6 marks)**

The table below shows the Gross National Product (GNI) per capita PPP and the Human Development Index (HDI) of selected countries from different income groups:

Country	GNI per capita PPP (2019)	HDI (2019)
USA	$65,297	0.926
Oman	$44,853	0.821
Bangladesh	$5,139	0.632
Mexico	$9,633	0.779
Nigeria	$5,986	0.539
Turkey	$28,275	0.820
South Korea	$31,977	0.916
China	$18,152	0.761

29. What does the Human Development Index (HDI) measure and what are the three dimensions used to calculate it? (2 marks)

30. What is PPP and how is it used to compare economic activity across countries? (2 marks)

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Question Five: (continued)

31. Based on the table, discuss the relationship between HDI and GNI PPP? Does this relationship hold for all countries? Explain. (2 marks)

[End of Examination]

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مركز القياس والتقويم التربوي
The Center for Educational Assessment and Measurement (CEAM)

امتحان دبلوم التعليم العام للمدارس الخاصة (ثنائية اللغة)

للعام الدراسي ١٤٤٤ هـ - ٢٠٢٢ / ٢٠٢٣ م

الدور الثاني - الفصل الدراسي الثاني

تنبيه:
- المادة: الإقتصاد
- الأسئلة في (١٣) صفحة.
- زمن الإجابة: ثلاث ساعات.
- الإجابة في الورقة نفسها.

تعليمات مهمة:

- يجب الحضور إلى قاعة الامتحان قبل عشر دقائق على الأقل من بدء زمن الامتحان.
- يجب إحضار أصل ما يثبت الهوية وإبرازها للعاملين بالامتحانات.
- يجب الالتزام بالزي (الدشداشة البيضاء والمصر أو الكمة للذكور) والزي المدرسي للطالبات ، ويستثنى من ذلك الدارسون من غير العمانيين بشرط الالتزام بالذوق العام، ويمنع على جميع المتقدمات ارتداء النقاب داخل المركز وقاعات الامتحان.
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- يقوم المتقدم بالإجابة عن أسئلة الامتحان المقالية بقلم الحبر (الأزرق أو الأسود).
- يقوم المتقدم بالإجابة عن أسئلة الاختيار من متعدد بتظليل الشكل (○) وفق النموذج الآتي:

س - عاصمة سلطنة عمان هي:

○ القاهرة ○ الدوحة
● مسقط ○ أبوظبي

ملاحظة: يتم تظليل الشكل (●) باستخدام القلم الرصاص وعند الخطأ، امسح بعناية لإجراء التغيير.

صحيح ● **غير صحيح** ▭ ◉ ◒ ☒ ☑

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Question One: Multiple Choise (Items 1 – 6) (6 marks)

There are 6 multiple-choice items worth one mark each.
Shade in the bubble (○) next to the **correct** answer for each of the following items.

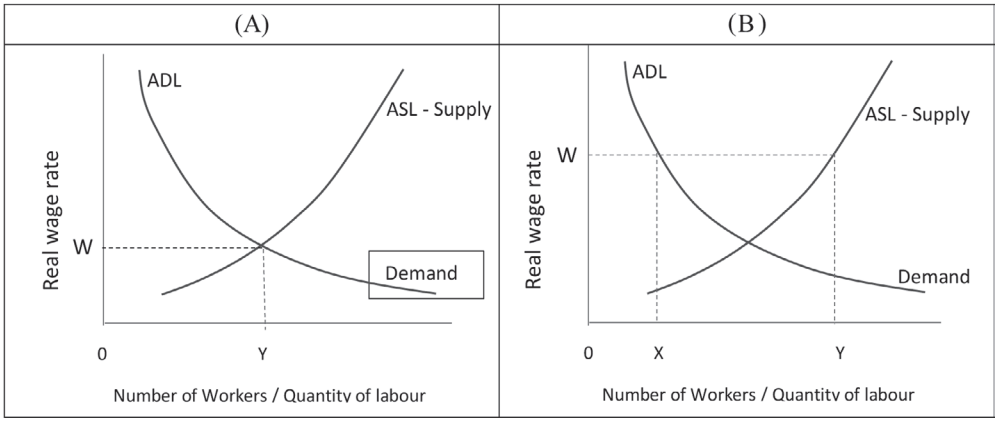
1. The lowest point of the trade (business) cycle is called:

- ○ Peak
- ○ Trough
- ○ Recovery
- ○ Down-turn

2. Assume the fractional unemployment = 7%, the cyclical unemployment = 7%, and the structural unemployment = 5%. The natural rate of unemployment equals:

- ○ 19%
- ○ 14%
- ○ 12%
- ○ 7%

3. In the figures below:



- ○ Figure (A) refers to the equilibrium unemployment and Figure (B) refers to the disequilibrium unemployment.
- ○ Figure (A) refers to the disequilibrium unemployment and Figure (B) refers to the equilibrium unemployment.
- ○ Both figures (A) and (B) refer to the equilibrium unemployment.
- ○ Both figures (A) and (B) refer to the disequilibrium unemployment.

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Question One: (continued)

4. Devaluation is:

- ☐ A decision by the government to raise the international price of the country's currency.
- ☐ A decision by the government to lower the international price of the country's currency.
- ☐ The exchange rate set by the government and maintained by the central bank.
- ☐ The exchange rate which is influenced by the state intervention.

5. Which of the following countries is likely to have the highest level of economic development?

	Country	Annual GNI per head ($)	% of population who are homeless
☐	A	5000	30
☐	B	10000	20
☐	C	20000	10
☐	D	30000	5

6. Which of the following is NOT a reason behind giving bilateral/tied aid?

- ☐ Increase the demand on the industries of the donated country.
- ☐ Gain political influence by the donated country.
- ☐ Decrease the exports and imports of the recipient country.
- ☐ To influence the economic policies of the recipient government.

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Question Two: Fill in the Blank (Items 7 – 12) (6 marks)

Fill in the blanks using the correct phrase from the box below:
Note: There are four extra phrases in the box.

Liquidity trap	Improved access to high quality education	Demand on money	Optimum population	Efficient population
Automatic stabilizers	Equilibrium unemployment	Potential economic growth	Number of economic blocs	Reduction of trade barriers

7. Variables which offset fluctuations in the economic activities are called _____.

8. _____ is a proper policy to promote inclusive economic growth.

9. The unemployment that is present when the economy overall is in equilibrium is called _____.

10. The point where there is no possibility to drive down the rate of interest by increasing the money supply is called _____.

11. _____ is the size of population that maximizes GDP per head.

12. _____ can be used as an indicator to measure globalization.

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Question Three: Extended Response (Items 13 – 20) (16 marks)

Write your answer for each of the following questions in the space provided.

13. Explain the polluter pays principle and justify the passing of legislations in European countries that bans the production of ceramics. (2 marks)

14. Ahmed is a Sudanese engineer. He is planning to move to work in Germany, which he has never visited. From your understanding of the geographical labour mobility theory, state two of challenges which he may face. (2 marks)

15. Analyze the tools of supply side policies which can be used to reduce unemployment. (2 marks)

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Question Three: (continued)

16. You are given the following data:

Money supply (M) = $10 Billions

Price level (P) = 5

The output of the economy (T) = $15 Billions

Calculate the value of velocity (V) using the quantity theory of money. (2 marks)

17. Calculate the real exchange rate for the Malaysian Ringgit (MR) if the USD – Ringgit is $1.00 = MR 4.00 and the US price index is 150 and the Malaysian price index is 125. (2 marks)

18. How does the inelasticity of food products make trade for low income countries more vulnerable? (2 marks)

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Question Three: (continued)

19. Although the International Monetary Fund (IMF) and the World Bank (WB) were created on the same day, each of them has a different role in the international economy.

Explain how the role of each institution is different to the other. (2 marks)

20. Through your study of trade blocs, identify in which stage are the GCC countries currently? Justify your answer. (2 marks)

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Question Four: Extended Response (Items 21 – 25) (20 marks)

21. Sustainable economic growth became one of the goals for the majority of governments worldwide. Explain the following:

a. The definition of sustainable economic growth; (1 mark)

b. The impact of economic growth on the environment and climate change: (1 mark)

c. The role of resources conservation in achieving the sustainable economic growth, with one example. (2 marks)

22. According to the loanable funds theory, the interest rate is determined by the demand and supply of loanable funds. **Answer the following questions:**

a. State two sources that can demand loanable funds. (2 marks)

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Question Four: (continued)

b. Analyze the impact of the rise in the supply of loanable funds on the interest rate. Illustrate your answer using a graph if possible. (2 marks)

23. Assume that the Price Elasticity of demand on exports for South Africa = 0 and the Price Elasticity of demand on imports for South Africa = -1.5. The government decided to devalue the South African Rand against the dollar, stating that this decision is beneficial for the country.

a. Explain the Marshall-Lerner condition and the results of meeting this condition (2 marks)

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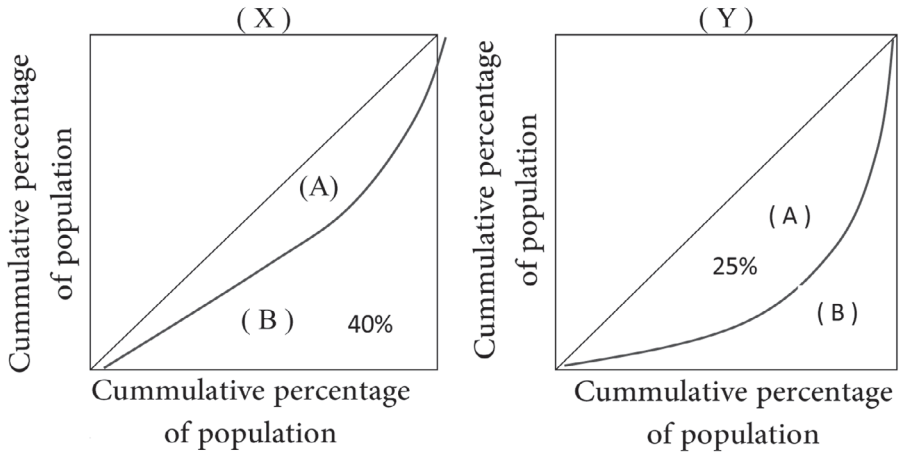
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Question Four: (continued)

b. Evaluate the outcomes for this decision and if it has a positive or negative impact on South Africa's trade balance.

Justify your evaluation. (2 marks)

24. The following figures show the Lorenz curve for two countries, X and Y.



a. Calculate the Gini coefficient and the Gini index for the two countries (2 marks)

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Question Four: (continued)

b. Which country (X) or (Y) has more dependence on the primary sector? Why? (2 marks)

25. Although countries can achieve a high level of economic growth via attracting Multinational Companies (MNCs), there is much debate on the activities of these companies in the hosting countries.

a. Define a Multi-National Company. (1 mark)

b. State two disadvantages of MNCs for the hosting country? (2 marks)

c. State two measures that a country can offer MNCs as an incentive to invest in that country. (1 mark)

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Question Five: Case Study (Items 26 – 27) (12 marks)

Case study 1 **(6 marks)**

26. Assume you are appointed as CEO for "X" bank in the UK. The central bank requires all banks to keep a ratio of 10% within their reserves. **Answer the following questions.**

a. Explain the impact of increasing the reserve ratio on the money supply. (1 mark)

b. Calculate the value of the credit multiplier for "X" bank. Explain the meaning of this result. (2 marks)

c. How much credit creation would take place if one would deposit £1,000 in "X" bank? (1 mark)

d. Assume that the central bank decided to sell government securities. Evaluate the impact of this decision on the ability of "X Bank" to lend. (2 marks)

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Question Five: (continued)

Case study 2 **(6 marks)**

27. Use the table below to **Answer the following questions.**

Country Name	Real GNI (2017 fixed prices - $)	Population
Australia	1,316,464,081	25,688,079
India	9,133,558,636	1,407,563,842
Niger	3,0526,860	25,252,722
United States of America	21,552,086,189	331,893,745

Source: World Bank database

a. Calculate the GNI Per Capita for the four given countries. (2 marks)

b. Classify the four economies based on their GNI per capita according to the World Bank classification (High-income, Upper middle-income, Lower middle-income and Low-income) (2 marks)

Country Name	Classification
Australia	
India	
Niger	
United States of America	

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Question Five: (continued)

c. When using GDP per capita or GNI per capita to compare the economic growth for one country over time or between countries, these figures may understate the true changes in output, Why? (1 mark)

d. There are some indicators of living standards and economic development that are measured in non-monetary terms. Human Development Index (HDI) is one of these indices. Explain this index, its components, and the classification of countries according to this indicator. (1 mark)

[End of the Examination]

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SECOND SEMESTER

ICT

(تقنية المعلومات والاتصالات)

(Answers)

SULTANATE OF OMAN
MINISTRY OF EDUCATION

Marking Guide of General Educational Diploma for Private Schools
2023/2024
Semester TWO – First Session
Subject: ICT

مركز القياس والتقويم التربوي
The Center for Educational Assessment and Measurement (CEAM)

Note: There are 12 pages in this guide

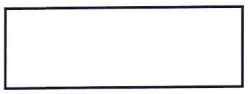
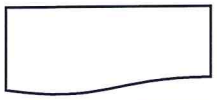
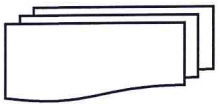
First: Answers for the Multiple-Choice Items (8 Marks):

N.	Answer	Mark	Learning Outcome	Learning Level
1	A Analysis	1	Define the term analysis	AO1
2	D Postal/ZIP code must match the country selected.	1	Explain and apply validation routines.	AO2
3	A Testing internal structure and logic of a software application.	1	Define the terms black box testing and white box testing.	AO1
4	A Troubleshooting section	1	Explain why technical and user documentation are needed	AO2
5	B Throwaway prototyping	1	Explain different types of prototyping and explain why each is needed	AO1
6	C .PDF	1	Identify different file formats (SVG,BMP, GIF, JPEG, PNG,TIFF,PDF) and image types (Bitmap, Vector)	AO2
7	A The property that determines the visibility or transparency of an image or object.	1	Define opacity and transparency	AO1
8	D removes non-essential image data to reduce file size, resulting in some loss of quality.	1	Describe lossless and lossy compression	AO1

Second: Answers for the Extended Response Items (32 Marks):

General Notes

- There may be different ways of answering questions, but a basic requirement for all answers is that they are RELEVANT.
- If the answer is clearly not relevant, and the student has clearly made no attempt to answer the question that was set, NO marks should be awarded. However, if the student has genuinely attempted the answer, but his answer is only partly relevant, then a reduced mark (not zero) should be awarded.

<table>
<tr><th>N.</th><th>Correct Answer</th><th>Mark</th></tr>
<tr><td>9.a</td><td>
A sample Answer:
It shows the flow of data and processes within a complete system.
Marking Guidance and Rubric:
The provided answer is just a sample answer, all other answers should be marked based on the following rubric:
<table>
<tr><th>Mark</th><th>Knowledge and Understanding
(AO1) - 1 mark</th></tr>
<tr><td>1</td><td>The answer demonstrates a clear understanding of the primary rule of system flowcharts.</td></tr>
<tr><td>0.5</td><td>The answer provides a partially accurate or incomplete statement of the primary rule of system flowcharts.</td></tr>
<tr><td>0</td><td>The answer does not demonstrate an understanding of the rule of system flowcharts or is completely incorrect.</td></tr>
</table>
<table>
<tr><td>Learning Outcome</td><td>Identify the elements, purposes, and symbols of flowcharts.</td></tr>
<tr><td>Learning Level</td><td>AO1</td></tr>
<tr><td>Pages</td><td>S1. 350</td></tr>
</table>
</td><td>1</td></tr>
<tr><td>9.b</td><td>
Answer:
<table>
<tr><td>Process</td><td></td></tr>
<tr><td>Manual Input</td><td></td></tr>
<tr><td>Document</td><td></td></tr>
<tr><td>Multi-Document</td><td></td></tr>
</table>
Marking Guidance:
Each correct symbol worth 0.5 mark (4*0.5=2 marks)
<table>
<tr><td>Learning Outcome</td><td>Identify the elements, purposes, and symbols of flowcharts.</td></tr>
<tr><td>Learning Level</td><td>AO2</td></tr>
<tr><td>Pages</td><td>S1. 350 - 351</td></tr>
</table>
</td><td>2</td></tr>
</table>

10.a — 2

A sample answer:

There are multiple elements included in the test plan, two of them are:

- All the users' requirements.
- The different types of test data (valid (normal), invalid (abnormal), and extreme).
- Every input, every button, every link, every report, every screen and all other elements of a system.

Marking Guidance and rubric:

*Each correct element worth 1 mark (2*1=2 marks)*

The provided answer is just a sample answer; all other answers should be marked based on the following rubric:

Mark	Knowledge and Understanding (AO1) - 2 marks
2	The answer provides two basic elements included in a test plan.
1	The answer provides one correct element included in a test plan.
0	No Answer provided or the answer is incorrect or irrelevant to the question.

Learning Outcome	Describe the importance of testing and having a test plan
Learning Level	AO1
Pages	S1. 358

10.b — 1

Answer:

Valid	505 (OMR)
Invalid	3000 (OMR)
Extreme	500, ***or*** 2000 (OMR)

Marking Guidance:

In valid type: any figure between 500 and 2000 is correct (0.5 mark)

In Extreme: The mentioned figures are the only accepted figures. Mentioning one of the two figures means the student got (0.5 mark).

Learning Outcome	Explain the types of testing (Valid, Invalid, Extreme, and live data)
Learning Level	AO2
Pages	S1. 356

11 — 2

A sample Answer:

Example: A novice user who has recently purchased a new digital camera or any electronic device may find themselves in need of user documentation to understand how to operate the device effectively. Specifically, when attempting to capture high-quality photographs in low-light conditions.

The user may refer to the "Instruction Manual" section in the user manual. This section provides detailed step-by-step instructions on adjusting ISO settings, selecting appropriate aperture and shutter speed settings, and utilizing features such as image stabilization or low-light shooting modes.

Other sections: user guide, content page which has a hyperlink, a glossary page, troubleshooting guide and instruction manual.

Marking Rubric and Guidance:

The provided answer is just a sample answer, any other correct answer should be marked based on the following rubric:

Mark	Knowledge and Understanding (AO1) 1 mark	Mark	Application (AO2) 1 mark
1	Accurate identification and brief description of the specific section required for the example provided.	1	The provided example is clear and relevant
0.5	Correct identification with no description of the section.	0.5	The provided example lacks clarity or relevance.
0	No section identified or incorrect section identified.	0	No example provided.

Learning Outcome	Explain why technical and user documentation is needed
Learning Level	AO1, AO2
Pages	S1. 364

12 — 1

A sample answer:

The layer is **a 'surface'** onto which **an image or object is placed**.

Marking Guidance and rubric:

The provided answer is just a sample answer, any other correct answer should be marked based on the following rubric.

Mark	Remembering and understanding (AO1) -1 mark
1	Accurate description is provided.
0.5	Partial or somewhat accurate description is provided.
0	No description is provided, or the provided description is incorrect.

Learning Outcome	Define the term layer.
Learning Level	AO1
Pages	S1. 401

13.a — 1

Answer:

The two examples of lossy compression are:

Changing the color depth.

Changing the resolution.

Marking Guidance and rubric:

The provided answer is just a sample answer, any other correct answer should be marked based on the following rubric.

Mark	Remembering and understanding (AO1)- 1 mark
1	Two correct relevant examples of lossy compression are provided
0.5	Only one correct relevant example of lossy compression is provided
0	No examples of lossy compression are provided, or incorrect examples are provided

Learning Outcome	Describe lossless and lossy compression
Learning Level	AO1
Pages	S1. 420

13.b — 2

A sample Answer:

An example of lossy compression in practice is the compression of images for web usage, live streaming media, multimedia (audio, video, image) and presentation. In this scenario, image files are compressed using techniques like quantization and subsampling to reduce their size while maintaining an acceptable level of visual quality. This allows websites to load images more quickly, improving user experience without significantly compromising image clarity.

Marking Guidance and rubric:

The provided answer is just a sample answer, any other correct answer should be marked based on the following rubric.

Mark	Application (AO2) - 2 marks
2	An accurate and relevant example in which lossy compression is used is provided
1	A partial accurate example in which lossy compression is used is provided but it lacks clarity or relevance.
0	No real-world example in which lossy compression is used is provided.

Learning Outcome	Describe lossless and lossy compression
Learning Level	AO2
Pages	S1. 420

14	A sample answer: (a) Pilot implementation: Pilot implementation takes place when part of an organization starts to use the new system while the rest of the organization continues to use the old system. The new system is effectively being beta tested by the pilot group. Direct changeover: Direct changeover is when a date is chosen for the old system to stop running and the new system to start running. The systems do not run at the same time and there is a clear break from the old system to the new system. Data will need to be transferred from the old system to the new system before the new system can be used. (b) Considering the critical nature of patient records and financial data in the hospital, the most appropriate implementation method would be the **pilot implementation** or **parallel implementation**. (c) One relevant factor to consider when selecting the best implementation method for this hospital is the criticality of the system to the running of the organization. The patient records, medical histories, appointments, and billing information managed by the new system are crucial for the hospital's daily operations and the delivery of quality patient care. Any errors or disruptions in accessing or managing this information could have serious implications for patient safety, treatment outcomes, and financial stability. Pilot implementation offers a more controlled and phased approach to introducing the new system, allowing the hospital to prioritize patient care while minimizing risks. By initially implementing the system in a limited scope or specific departments, the hospital can ensure that essential functions are not compromised during the transition period. This approach allows for thorough testing, training, and adjustment based on feedback from staff and patients, reducing the likelihood of errors or disruptions that could impact the hospital's ability to deliver critical services. Other factors: cost, number of users and size of the new system.	5

Marking Guidance and rubric:

The provided answer is just a sample answer, any other correct answer should be marked based on the following rubric

Mark	Knowledge and Understanding (AO1) - 2 marks	Mark	Analysis (AO3) - 1 mark	Mark	Evaluation (AO4) - 2 marks
2	Accurate clear definitions of both pilot and changeover are provided.	1	A reasonable relevant recommended method is provided	2	Detailed analysis of one relevant factor with clear insights into their implications for the selected implementation method in the provided context
1.5	An accurate clear definition of one of the methods and a partial or somewhat imprecise definition of the second method.	0	No recommendation provided.	1-1.5	A basic justification of the selected method by analyzing one factor and how it shaped the decision. However, the analysis lacks depth and insight or does not provide any link to the context or the link unclear.
1	Partial definitions of the two implementation methods are provided. But the definitions lack detail or precision. Or an accurate definition of one of the methods but not both.			0.5	Limited imprecise and non-concise justification with no analysis of the factor in the provided context. The justification is of minimal depth or relevance.
0.5	A partial definition of one of the two implementation methods is provided but not both. The definition is lacking detail or precision.			0	No Justification and no analysis of factors is provided.
0	No definitions of both pilot and changeover are provided, or the provided definition is incorrect or irrelevant.				

Learning Outcome	Evaluate the factors to choose the suitable implementation method. Differentiate between the methods of implementation
Learning Level	AO1, AO2, AO3, AO4
Pages	S1. 360-361

15

A sample answer:

(a) An additional method of evaluation that could be used to assess the effectiveness of the system in the context of services movement is conducting interviews with key stakeholders. Interviews allow the company to gather in-depth qualitative feedback from individuals involved in the planning, control, and implementation of the service movement. By interviewing managers, supervisors, and frontline staff responsible for service management, the company can gain valuable insights into their experiences with the system, any challenges they encounter, and suggestions for improvement.

(b) The best method for maintaining and improving the system as the company expands its operations to include services movement is adaptive maintenance. Adaptive maintenance involves modifying the system to accommodate changes in the company's business environment or requirements. As the company transitions from handling goods to also managing services movement, there will be new challenges and requirements that the system needs to address. Adaptive maintenance allows the company to make necessary modifications to the system, such as adding new features or functionalities to support service planning, scheduling, and tracking. This ensures that the system remains aligned with the company's evolving needs and effectively supports its expanded operations.

Marking rubric and guidance:

The provided answer is just a sample answer; all other answers should be marked based on the following rubric:

5

Mark	Application (AO2) – 2 marks	Mark	Evaluation (AO4) – 3 marks
2	A relevant and specific method of evaluation is described, demonstrating understanding of the company's operations.	3	A recommendation is provided with clear justification and specificity, demonstrating an understanding of the recommended method of maintenance and its implications for the company's expanded operations.
1	A method of evaluation is described, but it lacks specificity or relevance to the company's context.	2	A recommendation is provided with some justification but lacks depth.
0	No method of evaluation described, or irrelevant method mentioned.	1	A recommendation is provided, but it lacks justification or specificity.
		0	No recommendation provided.

Learning Outcome	Explain perfective maintenance, adaptive maintenance, preventive maintenance, and corrective maintenance with an example.
Learning Level	AO2, AO4
Pages	S1. 365-p366

16	A sample Answer: **(a)** Two specific tools commonly used in image editing software are the "Clone Stamp Tool" and the "Red Eye Tool". Other tools: Selection tools (lasso, magic, wand, shape), filters include (clone, red eye, blur, sharpen, smudge) **(b)** One problem associated with Image manipulation in the context of advertising is the unrealistic portrayal of beauty standards. In advertising, images are often heavily edited to enhance the appearance of models and products, leading to unrealistic expectations and perceptions of beauty. For example, a cosmetic advertisement may digitally alter a model's features to create flawless skin or exaggerated body proportions, presenting an idealized version of beauty that is unattainable. **(c)** The consequence of this problem is the negative impact on self-esteem and body image. When individuals are repeatedly exposed to digitally manipulated images that promote unrealistic beauty standards, they may develop feelings of inadequacy or dissatisfaction with their own appearance. This can contribute to body image issues, low self-esteem, and mental health problems, such as depression and eating disorders. Additionally, the perpetuation of unrealistic beauty ideals in advertising can perpetuate harmful stereotypes and contribute to the marginalization of individuals who do not fit these narrow standards of beauty. Marking Guidance and Rubric: The provided answer is just a sample answer, all other answers should be marked based on the following rubric:	4

Mark	Knowledge and Understanding (AO1) 1 mark	Mark	Application (AO2) 1 mark	Mark	Analysis (AO3) 2 marks
1	Two correct tools identified.	1	The discussion is highly relevant to the chosen context, providing a clear insights and connections.	2	A problem associated with image manipulation is discussed, providing clear insights into its implications, and the consequence is clearly described.
0.5	One correct tool identified.	0.5	The discussion is somewhat relevant to the chosen context but lacks specificity.	1	A problem associated with image manipulation is discussed, but lacks depth or clarity in its explanation, and/or the consequence is not clearly described.

	0	No tools identified or the identified tools are incorrect or irrelevant.	0	The discussion of the problem and its consequence is not relevant to the chosen context, or the context is not clearly specified. Or no discussion provided.	0	No problem associated with image manipulation, or its consequence discussed.

Learning Outcome	Explain the tools of image editing software. Explain the problems associated with image manipulation in society.
Learning Level	AO1, AO2, AO3
Pages	S1. 418

17.a

A sample Answer:

An advantage of using questionnaires is their cost-effectiveness and efficiency in collecting data from a large number of stakeholders within a short timeframe.

A disadvantage is that questionnaires may suffer from low response rates.

Marking Guidance and Rubric:

The provided answer is just a sample answer, all other answers should be marked based on the following rubric:

Mark	Remembering and Understanding AO1 - 1 mark
1	Accurate relevant response identifying both an advantage and a disadvantage of questionnaire method.
0.5	A partial response was provided, identifying one advantage or one disadvantage but not both.
0	No response provided, or the provided response is irrelevant.

Learning Outcome	Analyze the advantages and disadvantages of each analysis method
Learning Level	AO1
Pages	S1. 344-p345

1

17.b

A sample Answer:

One consequence of the advantage of cost-effectiveness in using questionnaires to gather requirements for the online banking system is that it allows the banking company to allocate resources more efficiently, potentially saving time and money in the research process. This could mean that the company can invest additional resources in other areas of system development or allocate funds towards improving customer service or security measures.

On the other hand, a consequence of the disadvantage of low response rates is that it may lead to incomplete or biased data collection, resulting in gaps in understanding stakeholders' needs and preferences. In the context of the banking company's online banking system, this could mean that crucial insights from certain stakeholder groups may be missed, leading to potential oversights or misunderstandings in the system design and development process. This, in turn, could result in a system that fails to fully address the diverse needs of its users, potentially impacting user satisfaction and adoption rates.

4

Marking Guidance and Rubric:

The provided answer is just a sample answer, all other answers should be marked based on the following rubric:

Mark	Application AO2 - 2 mark	Mark	Analysis AO3- 2 marks
2	The consequences of both the advantage and disadvantage are clearly relevant to the provided context.	2	The consequences of both the advantage and disadvantage are discussed effectively, demonstrating a clear understanding of how they impact the context provided.
1	Consequences of the advantage or disadvantage are discussed, but the relevance to the provided context is somewhat unclear or lacking in depth.	1	The consequence of either the advantage or the disadvantage is provided, but not both. Or the consequences of both the advantage and disadvantage are lacking depth and clarity.
0	No relevance of the discussion to the provided context	0	No consequences are discussed, or the discussion is irrelevant.

Learning Outcome	Analyze the advantages and disadvantages of each analysis method
Learning Level	AO2, AO3
Pages	S1. 344-p345

17.c

Answer:

A sample Answer:

A prototype is a 'mockup' of a software solution in a primitive form.

Marking Guidance and rubric:

The provided answer is just a sample answer, any other correct answer should be marked based on the following rubric.

Mark	Remembering and understanding (AO1) - 1 mark
1	Accurate definition is provided.
0.5	Partial or somewhat accurate definition is provided.

1

0	No definition is provided, or the provided definition is incorrect or irrelevant.

Learning Outcome	Define the term prototype
Learning Level	AO1
Pages	S1. 368

[End of Marking Guide]

SULTANATE OF OMAN
MINISTRY OF EDUCATION

Marking Guide of General Educational Diploma for Private Schools

2023/2024

Semester TWO – Second Session

Subject: ICT

Note: There are 15 pages in this guide

First: Answers for the Multiple-Choice Items (8 Marks):

N.	Answer	Mark	Learning Outcome	Learning Level
1	B Direct changeover	1	Identify methods of implementation	AO1
2	A Phased implementation.	1	Explain the four methods of implementation	AO2
3	C It assists users in software installation, operation, and troubleshooting.	1	Define the term user documentation	AO1
4	A Evolutionary prototyping	1	Explain different types of prototyping and explain why each is needed.	AO1
5	D Throwaway/rapid	1	Evaluate the advantages and disadvantages of each type of Prototyping.	AO2
6	D base color of the object.	1	Explain the properties of different color systems (RGB, HSL, CMYK, CMS).	AO1
7	B RGB	1	Explain the properties of different color systems (RGB, HSL, CMYK, CMS).	AO2
8	C The number of colors that can be displayed per pixel in an image.	1	Define color depth	AO1

Second: Answers for the Extended Response Items (32 Marks):

General Notes

- There may be different ways of answering questions, but a basic requirement for all answers is that they are RELEVANT.
- If the answer is clearly not relevant, and the student has clearly made no attempt to answer the question that was set, NO marks should be awarded. However, if the student has genuinely attempted the answer, but his answer is only partly relevant, then a reduced mark (not zero) should be awarded.

N.	Correct Answer	Mark
9	**Answer:** **Any TWO of the following:** • Data flow: this is the data that is flowing throughout the system. • Process: This is an action that uses or manipulates data. • Data store: This is a place where data is stored. This could be a hard disk, cloud storage or a paper file, for example. • Data source or destination: This is an external entity where the data originates or is destined. • Duplication data source or destination: This is where we have more than one source where data originates or is destined, to avoid crossing data flow. **Marking Guidance and Rubric:** *The student has to identify and briefly describe two DFD elements.* *Each element is worth 1 mark (1*2=2 marks).* *The provided answer is just a sample answer; all other answers* ***should be marked*** *based on the following rubric:*	2

Mark	Remembering and Understanding (AO1) - 2 marks
2	The answer provides two elements with two brief descriptions.
1	The answer provides either two elements or two descriptions or only one element with one description.
0.5	The answer provides one element or one description.
0	The answer doesn't provide any elements or descriptions.

Learning Outcome	Identify the elements, purposes and symbols of data flow diagram.
Learning Level	AO1
Pages	349

10	**Answer:** **Any TWO of the following:** • Manual input • Arrow • Process • Document • Multi document • Magnetic disk • Magnetic tape • Display **Marking Guidance:** *Each element is worth 1 mark (1*2 = 2 marks).* **Learning Outcome**: Identify the elements, purposes and symbols of flowcharts. **Learning Level**: AO1 **Pages**: 350 - 351	2
11. a *and* **b**	**Answer:** **Sample Answer:** **a. User Documentation** Example: A user manual for a smartphone, providing instructions on setup, usage, and troubleshooting in a simplified language for the average consumer. **b. Technical Documentation** Example: An API (Application Programming Interface) reference guide for software developers, detailing endpoints, parameters, and usage examples for integrating third-party services into their applications.	2

Marking Guidance and Rubric:

Any other examples, if correct, should be accepted.

*The provided answer for **a** and **b** is just a sample answer; all other answers **for each, a and b, should be marked** based on the following rubric:*

Mark	Application (AO2) 1 mark
1	A correct, clear example that demonstrates clear understanding of the documentation.
0.5	The example is partially accurate or incomplete example.
0	The example does not demonstrate an understanding of the documentation or is completely incorrect.

Learning Outcome	Explain why technical and user documentation is needed.
Learning Level	AO2
Pages	362 - 363

12

Answer:

A sample Answer:

1. **Its ability to accurately track food waste levels:** The software should accurately record and analyze data related to food waste generation. This includes tracking the type and quantity of food waste produced,
2. **The ease of use for students and staff:** The software should be easy to use for both students and staff members. This involves assessing the user interface design, the intuitiveness of navigation and data input processes, and the availability of support resources (such as tutorials or help documentation).

Other elements could be:

- The reliability of the data generated.
- Its ability to provide actionable insights for improving the composting program.
- Cost savings or efficiency gains attributed to the software.

2

Marking Guidance and Rubric:

The answer should identify and briefly explain two elements. 1 mark will be given to each element. The provided answer is just a sample answer; all other answers should be marked based on the following rubric:

Mark	Application (AO2) 2 marks
2	The answer offers a clear explanation of TWO evaluation elements
1	The answer provides a basic explanation of two elements, or a clear explanation of only one element.
0.5	The answer provides a partially accurate or incomplete explanation of only elements
0	No answer provided or answer lacks relevance to the question.

Learning Outcome	Identify the methods of evaluating in a new system. Identify the
Learning Level	AO2
Pages	364 - 365

13 a *and* b

Answer:

Sample Answer:

a. **CMYK:** CMYK stands for Cyan, Magenta, Yellow, and Black. It is a color model used primarily in printing, where different combinations of these colors are layered to produce a wide range of hues.

b. **CMS:** CMS stands for Color Matching System. It is not a color itself, but it is a software-based solution. This is a way that a piece of software can select a color from an image and reproduce it.

2

Marking Guidance and Rubric:

The provided answer is just a sample answer; all other answers for each, a and b, should be marked based on the following rubric:

Mark	Remembering and Understanding (AO1) 1 mark
1	The answer provides a clear definition (including letter meaning and usage) of the color system.
0.5	The answer provides a partially accurate or incomplete definition of the color system.
0	No definition provided or incorrect definition.

Learning Outcome	Explain the properties of different color systems (RGB, HSL, CMYK, CMS).
Learning Level	AO1
Pages	407

Answer:

A. lossless compression

B. lossy compression

Learning Outcome	Discuss the effects of different methods of compression on images.
Learning Level	AO2
Pages	420 - 421

14 2

15	**Answer:** **Sample Answer:** The chosen research method: **The Questionnaire.** **The Definition:** Questionnaires involve presenting a set of questions to a targeted group of participants (large number of users) to gather data about their opinions, preferences, and behaviors. **The discussion of the advantage:** **The advantage: Questionnaires can reach a large number of respondents efficiently:** Questionnaires allow the tech company to efficiently reach out to a diverse range of remote workers, including freelancers, telecommuters, and employees of remote-first companies, regardless of their geographical location or time zone. This broad reach ensures that the company receives input from a representative sample of potential users, capturing a wide range of perspectives and requirements, without wasting too much time and efforts. *Note: Other advantages could be:* • The questionnaire allows for the collection of quantitative data, enabling statistical analysis to identify trends and patterns. • Questionnaires can be conducted remotely, making them convenient for both researchers and participants. **The discussion of the disadvantage:** **The disadvantage: Certain nuances or contextual information may be missed in the structured format of Questionnaires:** Questionnaires typically consist of closed-ended questions with predefined response options, limiting the depth of insights that respondents can provide. While structured questions are efficient for collecting quantitative data and measuring trends, they may overlook the intricacies and nuances of remote work experiences that could significantly impact the design and functionality of the mobile application. For example, a questionnaire might ask about preferred communication tools without exploring the specific challenges remote workers face in communication across different time zones or cultural contexts. *Note: Other disadvantages could be:* • Questionnaires may lack depth in understanding as they often provide limited opportunities for participants to explain their responses. • There's a risk of low response rates or biased responses if not carefully designed and distributed.	6

Another Sample Answer:

The chosen research method: **The Interview.**

The Definition:

Interviews involve direct one-on-one or group discussions (direct conversation) with participants to gather qualitative data by exploring their experiences, perspectives, and opinions in depth.

The discussion of the advantage:

The advantage: Interviews allow for a deeper understanding of participants' thoughts, feelings, and behaviors, providing rich and detailed insights:

Interviews provide a platform for participants to articulate their thoughts and feelings in their own words, allowing for a nuanced exploration of complex topics related to remote work and mobile application usage. Participants can share their experiences, challenges, and aspirations in depth, offering the tech company a comprehensive understanding of the multifaceted issues at play. This depth of exploration is invaluable for uncovering hidden insights and identifying opportunities for innovation and improvement.

Note: Other advantages could be:

- Researchers can probe further and ask follow-up questions to clarify responses and uncover underlying reasons.
- Interviews enable researchers to capture nuances and contextual information that may not be apparent in surveys.

The discussion of the disadvantage:

The disadvantage: Interviews can be time-consuming and resource-intensive, especially if conducted face-to-face:

Time is of the essence in the tech industry, where product development cycles are often fast-paced and competitive. The time commitment required for scheduling and conducting face-to-face interviews with remote workers can potentially delay the research phase of the project, impacting the overall development timeline of the mobile application. This delay may hinder the company's ability to gather timely insights and iterate on the application design and features accordingly, potentially putting it at a disadvantage in the market.

Note: Other disadvantages could be:

- There's a potential for interviewer bias or influence on participants' responses.
- Analysis of interview data may be more subjective and require more interpretive effort compared to quantitative data from surveys.

Marking Guidance and Rubric:

2 marks for the definition of the method (AO1)

2 marks for the discussion of one advantage (1 for the clear discussion with at least one clear consequence (AO3) and 1 mark for linking the discussion to the context of the tech company (AO2)).

2 marks for the discussion of one disadvantage (1 for the clear discussion with at least one clear consequence (AO3) and 1 mark for linking the discussion to the context of the tech company (AO2)).

*The provided answer is just a sample answer; all other answers **should be marked** based on the following rubric:*

Mark	Remembering and Understanding (AO1) 2 marks	Mark	Application (AO2) 2marks	Mark	Analysis (AO3) 2 marks
2	A clear concise definition of the chosen method is provided.	2	A clear and precise link exists between the discussion of both, the advantage and the disadvantage, and the provided context of the tech company.	2	A clear and concise discussion of both, an advantage and disadvantage with at least one consequence for each.
1	The definition of the method is provided but is partially clear.	1	A link exists between the discussion of the advantage and the disadvantage and the provided context but it lacks clarity or precision. Or, a clear link exists between the discussion of either the advantage or the disadvantage, but not both, and the provided context.	1	A clear discussion of either an advantage or disadvantage, but not both, with at least one clear consequence. Or, a basic discussion, that lacks clarity, of both, an advantage and disadvantage.
0	No definition of the method is provided, or the provided definition is not relevant..	0	No application or irrelevant application is provided.	0	No discussion or irrelevant discussion is provided.

Learning Outcome	Explain the methods of researching. Analyze the advantages and disadvantages of each analysis methods.
Learning Level	AO1, AO3, AO4
Pages	344 – 346

16

Answer:

- **Valid (also called normal data):** Data that will be accepted by the validation rule.
- **Invalid (also called abnormal or erroneous data):** Data that will not be accepted by the validation rule.
- **Extreme (also called extreme data):** Data that will only be accepted by the validation rule because it is at the limit of acceptability.
- **Live data:** refers to real-world or production-like data that simulates actual usage scenarios encountered in a live environment.

Marking Guidance:

*1 mark for the definition of each type of testing data (1*4 = 4 marks).*

Learning Outcome	Explain the types of testing (Valid, Invalid, Extreme, and live data)
Learning Level	AO1
Pages	356 - 357

4

17	**Answer:** **A sample Answer:** **The meaning:** Image editing refers to the process of altering or enhancing digital images using software tools. This can involve various modifications such as adjusting colors, removing or adding elements, or applying filters to achieve desired visual effects. **The discussion of the issue and its impact:** One significant issue associated with image editing in society is the proliferation of memes and the potential harm caused by making fun of people. Memes, often created through image editing, have become a prevalent form of online communication and entertainment. However, the use of edited images in memes can perpetuate harmful stereotypes, spread misinformation, and contribute to cyberbullying. The impact of this issue is evident in the negative consequences it can have on individuals' mental health and well-being, including feelings of humiliation, embarrassment, and social isolation. **The example:** A real-world example illustrating this issue is the circulation of edited images of individuals on social media platforms accompanied by mocking captions or memes. For example, imagine the case of a person whose photo is digitally manipulated to focus on certain physical features, such as weight, facial expressions, or clothing choices, to create a meme intended to ridicule or mock them. The dissemination of such memes can lead to public humiliation and embarrassment for the individual depicted, causing emotional distress and psychological harm. Furthermore, the widespread sharing of these memes can perpetuate harmful stereotypes and negative perceptions of certain groups, exacerbating social stigmatization and discrimination.	4

Marking Guidance and Rubric:

1 mark for the meaning of image editing (AO1)
1 mark for the real-world example (AO2)
2 marks for discussing the issue and its impact (AO3).
The provided answer is just a sample answer; all other answers ***should be marked*** *based on the following rubric:*

Mark	Remembering and Understanding (AO1) 1 mark	Mark	Application (AO2) 1 mark	Mark	Analysis (AO3) 2 marks
1	A clear concise description of the meaning is provided.	1	A relevant real-world example, and the discussion is relevant to the chosen example.	2	A problem associated with image editing is discussed, providing a clear insight into is implications, and the consequence is clearly described.
0.5	The description of the meaning is provided but lacks clarity or precision.	0.5	A relevant real-world example, and the discussion is somewhat relevant to the chosen example but lacks specificity.	1	A problem associated with image editing is discussed, but no clear reasonable consequence is stated, or the discussion of the problem and its consequences lacks depth and clarity.
0	No description of the meaning is provided, or the provided meaning is not relevant.	0	No relevant or coherent real-world example.	0	No problem associated with image editing is discussed, or the discussion is not relevant.

Learning Outcome	Explain the problems associated with image manipulation in society.
Learning Level	AO1, AO2, AO3
Pages	400

Answer:

A sample Answer:

The suitable implementation method for introducing the new student information system at the high school would be **Pilot Implementation**. This approach involves deploying the system in **a small-scale, controlled environment initially, allowing for thorough testing and evaluation before full deployment.** Pilot implementation enables the school to **assess system functionality** and **gather user feedback** effectively, **minimizing the risk** of widespread disruptions and **ensuring a smoother transition** for all stakeholders.

Marking Guidance and Rubric:

*The provided answer is just a sample answer; all other answers **should be marked** based on the following rubric:*

Mark	Application (AO2) 2 marks
2	Accurate implementation method is provided with clear justification.
1.5	Somewhat accurate implementation method is provided with partial justification.
1	The implementation method is correct, but the justification is irrelevant.
0	No implementation method is provided, and incorrect or irrelevant justification.

18.a 2

Learning Outcome	Explain the four methods of implementation.
Learning Level	AO2
Pages	360 – 362

Answer:

The best maintenance approach based on the given scenario is the Adaptive Maintenance.

The discussion:

This maintenance type ensures the smooth operation and long-term viability of the new student information system. Adaptive maintenance involves making continuous adjustments to the system to accommodate evolving user needs, and changes in the school environment. By prioritizing adaptive maintenance, the school can ensure that the system remains responsive and relevant over time, optimizing its performance and usability to support the school's objectives effectively.

18.b

Marking Guidance:

2 marks for suggesting the best maintenance type based on the given scenario (AO4)

2 marks for discussing why this maintenance type is the best, by considering the given two factors. The discussion must include at least one clear consequence (AO3).

4

Learning Outcome	*Explain adaptive maintenance with an example.*
Learning Level	AO3, AO4
Pages	365 - 366