FIRST SEMESTER

ICT

(تقنية المعلومات والاتصالات)

(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 ١٤٤٥/١٤٤٦ هـ - ٢٠٢٣ / ٢٠٢٤ م

الدور الأول - الفصل الدراسي الأول

تنبيه:
- المادة: تقنية المعلومات والاتصالات.
- 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.
- 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 – 8) (8 marks)

There are 8 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 a defining characteristic of virtual currency?

- 🖵 Centralized control by a government or central bank.
- 🖵 Physical representation in the form of coins and banknotes.
- 🖵 Limited real-world value outside of the context it was created for.
- 🖵 Lack of encryption and security features.

2. In the data mining process, what is the primary purpose of the data preparation stage?

- 🖵 To collect data from various sources.
- 🖵 To generate test scenarios for analysis.
- 🖵 To evaluate the results of data modeling.
- 🖵 To cleanse, format, and structure the data for analysis.

3. The primary purpose of online forums is to:

- 🖵 Conduct e-commerce and online shopping.
- 🖵 Watch live streaming of popular events and sports.
- 🖵 Share personal photos and videos with friends and family.
- 🖵 Engage in discussions and exchange information on specific topics.

4. As a forum moderator, you notice a heated argument between two users that is disrupting the forum's positive atmosphere. How would you effectively address this situation to restore a respectful discussion?

- 🖵 Remove offensive comments and privately warn the users involved.
- 🖵 Ask users to resolve the argument immediately.
- 🖵 Delete the entire thread to end the argument.
- 🖵 Ignore the whole situation.

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Question One continued

5. The technology-enhanced learning system provides a more personalized learning experience as learners are able to see, hear and speak to the tutor is called:

- ☐ MOOCs.
- ☐ Online tutorials.
- ☐ Video conferencing.
- ☐ Networked Learning.

6. The method document.write is used to:

- ☐ Create a new JavaScript file.
- ☐ Modify the page's structure and layout.
- ☐ Generate content or text on a web page.
- ☐ Embed multimedia elements like videos and audio.

7. The method that is used to target an HTML element by its ID is:

- ☐ document.getElementById
- ☐ document.getByID
- ☐ document.write
- ☐ innerHTML

8. What does an alert box in JavaScript typically display?

- ☐ A confirmation dialog for user actions.
- ☐ A notification message to the user.
- ☐ A log of JavaScript errors.
- ☐ A prompt for user input.

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Question Two: Extended Response (Items 9–18) (32 Marks)

There are 10 extended response items.
Answer ALL questions in the space provided.

9. Identify **TWO** popular forms of cryptocurrency. (1 mark)

10. Describe what is meant by data mining. (1 mark)

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Question Two continued

11. You have been asked to use data mining to assess consumer preferences for a new mobile phone model. In brief, describe any **THREE** tasks involved in data mining that you would have to carry out to produce an overview of consumer preferences for this product. (3 marks)

12. Define each of the following:

a. Networked learning. (2 marks)

b. Massive open online courses (MOOCs). (2 marks)

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Question Two continued

13. Describe **ONE** major challenge the students faced when the Ministry of Education (MOE) had implemented video conferencing platforms, such as google meet, as a primary means for delivering learning during the COVID-19 pandemic? (2 marks)

14. Identify **ONE** specific technological tool or innovation that is used to aid referees in their officiating roles in sporting events. (1 mark)

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Question Two continued

15. Using, trading, or investing in cryptocurrencies carries multiple inherent risks.

a. Identify **TWO** potential risks associated with using cryptocurrencies, and analyze **TWO** potential consequences of each risk. (3 marks)

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Question Two continued

b. Evaluate the likelihood of each risk occurring. (2 marks)

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Question Two continued

16. Recently, social networking has grown to be an inherent part of many people's lives.

a. Analyze **ONE** positive and **ONE** negative impact of social networking on Individuals (3 marks)

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Question Two continued

b. Evaluate the overall influence of social networking on individuals' lives, by taking into consideration the positive and negative impact you have already analyzed. Provide **ONE** recommendation for addressing the negative impact. (2 marks)

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Question Two continued

17. Study the following JavaScript code carefully:

```
<script>
Var mes = confirm (" Are you ready? ")
 var no1= promp ("The result of 10+10 is: "
document.getElementById("demo").innerHTML = no1;
</script>
```

a. The code syntax contains **TWO** noticeable errors, rewrite the code correctly. (2 marks)

b. Explain how the correct code will be executed. (2 marks)

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Question Two continued

18. Read the following scenario carefully, and answer all the questions below in the space provided:

In a developed manufacturing company specializing in producing microelectronics, robotics technology has emerged as a pivotal component for streamlining operations, ensuring quality control, and maintaining a competitive edge. The company has recently embarked on a digital transformation journey, incorporating a range of advanced robotic systems to enhance efficiency, minimize errors, and improve decision-making.

One of their recent initiatives involves the implementation of robotic arms and automated systems throughout the production floor. These robotic systems are designed to perform complex tasks with precision, thereby optimizing efficiency and product quality.

a. Demonstrate **ONE** way in which robotics can be utilized in this manufacturing company to enhance the productivity. (2 marks)

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Question Two continued

b. Analyze **ONE** potential benefit and **ONE** potential challenge of utilizing robotics by the mentioned company. (2 marks)

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Question Two continued

c. Building on your analysis of the benefits and challenges in B, evaluate whether the investment in robotics is effective for the company or not. Provide **ONE** recommendation on how the company can maximize the advantages or address the potential drawbacks of this technology in its manufacturing processes. (2 marks)

[End of Examination]

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امتحان دبلوم التعليم العام للمدارس الخاصة (ثنائية اللغة)

للعام الدراسي ١٤٤٦/١٤٤٥ هـ - ٢٠٢٤/٢٠٢٣ م

الدور الثاني - الفصل الدراسي الأول

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■ مسقط ▭ أبوظبي

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صحيح ■ **غير صحيح** ▭ ◉ ◒ ☒ ☑

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Question One: Multiple Choice (Items 1 – 8) (8 marks)

There are 8 multiple-choice items worth one mark each.
Shade in the bubble (⬭) next to the **correct** answer for each of the following items.

1) An example of cryptocurrency is:

- ⬭ Bitcoin.
- ⬭ PayPal wallet.
- ⬭ In-game currency.
- ⬭ Stored value cards.

2) Which stage of the data mining process involves the initial collection of data from various sources and the assessment of its integrity and accuracy?

- ⬭ Data modeling.
- ⬭ Data preparation.
- ⬭ Data understanding.
- ⬭ Business understanding.

3) An online forum is an online place for:

- ⬭ Handling private and confidential inquiries.
- ⬭ Synchronous discussions between multiple users.
- ⬭ Sending messages between two users in real-time.
- ⬭ Asynchronous discussions, where users post and reply at their convenience.

4) Said wants to share an important document with his foreign client for review and feedback.

Which key advantage of using email is most applicable to Said's situation?

- ⬭ Immediate real-time communication.
- ⬭ Enhanced security of document sharing.
- ⬭ Facilitating international video conferencing.
- ⬭ Efficient long-distance document exchange.

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Question One continued

5) The technology-enhanced learning system that is used by companies to design comprehensive staff training programs, without requiring tutor's physical presence, is referred to as:

- ☐ Online tutorials.
- ☐ Networked learning.
- ☐ Computer-based training.
- ☐ Massive open online courses.

6) The JavaScript method document. write is used to:

- ☐ Calculate values.
- ☐ Display text on the web page.
- ☐ Save a message from the user.
- ☐ Display the message in the popup box.

7) The code to call the HTML element "p" by its name "first paragraph" is:

- ☐ Document.getElementById ("first paragraph").
- ☐ Document.callElementById ("first paragraph")
- ☐ Document.getElementByName ("first paragraph").
- ☐ Document.callElementByName ("first paragraph")

8) The main purpose of using a prompt box is to:

- ☐ Allow the user to enter some text with the option ok only.
- ☐ Display only text in the pop-up box with the option ok only.
- ☐ Display only text in the pop-up box with the options ok and cancel.
- ☐ Allow the user to enter some text and give them two options, ok and cancel.

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Question Two: Extended Response (Items 9–18) (32 Marks)

There are 10 extended response items.
Answer ALL questions in the space provided.

9) Write **ONE** defined characteristic of digital currency. (1 mark)

10) In the data preparation stage of the data mining process, one of the essential steps is "data cleansing". Describe the meaning of this term. (1 mark)

11) In brief, explain **THREE** specific applications of data mining by a food delivery company. (3 marks)

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Question two continued

12) Write **ONE** advantage and **ONE** disadvantage for each of the following:

a. Online tutorials. (2 marks)

b. Networked learning. (2 marks)

13) Describe **ONE** practical application of networked learning in the context of teachers' professional development. (2 marks)

14) State **ONE** use of IT in monitoring and surveillance. (1 mark)

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Question two continued

15) "Using, trading, or investing in cryptocurrencies carries multiple advantages and disadvantages".

a. Identify **TWO** disadvantages of using digital currency and discuss **ONE** potential impact for each of these disadvantages. (3 marks)

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Question two continued

b. Decide which of the disadvantages you have discussed in a has a more significance impact that may hinder the use of digital currency, and provide a recommendation that an individual might undertake in response to this disadvantage. (2 marks)

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Question two continued

16) "Recently, social networking has grown to be an inherent part of many people's lives".

a. Identify **ONE** major negative impact associated with the use of social networking by individuals and examine **TWO** factors contributing to this impact. (3 marks)

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Question two continued

b. Suggest a solution to mitigate this impact. (2 marks)

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Question two continued

17) Study the following JavaScript code carefully:

```
<script>
alert ("Welcome to the website")
var message = Prompt. ("Are you sure you want to proceed?")
var result = confirm ("what is 2 + 3?")
</script>
```

a. The code syntax contains **TWO** noticeable errors, rewrite the code correctly.
(2 marks)

b. Explain how the first three lines in the given JavaScript code will be executed:
(2 marks)

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Question two continued

18) Read the following scenario, then answer all the questions in the space provided

Beyond-Horizon, being a leading sports institution, has consistently pushed the boundaries of innovation to enhance the overall sports experience for both athletes and fans. Recently, the company has adopted new technologies like Artificial Intelligence (AI) and Video Assistant Referee (VAR) systems.

Beyond-Horizon recognizes the transformative power of AI in sports. AI has been integrated into various aspects of their operations, including athlete performance analysis, injury prevention, and fan engagement. For athletes, AI-powered analytics provide valuable insights into their performance, helping them optimize their training and recovery. Additionally, AI-driven injury prediction models are used to minimize the risk of injuries and ensure player safety. For fans, AI-driven chatbots and virtual assistants enhance their experience by providing real-time information, answering queries, and even offering personalized recommendations.

The adoption of VAR technology is also a significant milestone in Beyond-Horizon's commitment to fair and accurate officiating. The company understands the importance of VAR in maintaining the highest standards of fairness and transparency in their competitions.

a. Describe **ONE** practical way in which the VAR system can be used by Beyond-Horizon. (2 marks)

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Question two continued

b. Discuss **ONE** potential benefit and **ONE** potential drawback of using the VAR system in football matches. (2 marks)

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Question two continued

c. Evaluate, by weighing up the benefit and drawback you have discussed in item B, the effectiveness of using the VAR system in football matches. (2 marks)

[End of Examination]

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