

V/BCA/502 (R)

Student's Copy

Professional Course Examination, November 2018

( 5th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Course : BCA-502

**( Computer Graphics and Multimedia )**

( Revised )

Full Marks : 75

Time : 3 hours

**( PART : A—OBJECTIVE )**

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

SECTION—A

( Marks : 15 )

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Picture definition stored in memory area is called

(a) refresh buffer ( )

(b) pel ( )

(c) HDD ( )

(d) register ( )

2. A special purpose processor called the \_\_\_\_\_ is used to control the operation of the display device.

(a) display processor ( )

(b) display coprocessor ( )

(c) display controller ( )

(d) display device ( )

3. The translation distance pair  $(t_x, t_y)$  is called a

(a) translation pair ( )

(b) translation vector ( )

(c) translation distance ( )

(d) translation shift ( )

4. Two-dimensional scaling equation in the matrix form is

(a)  $P' = S + T$  ( )

(b)  $P' = S \cdot T$  ( )

(c)  $P' = S \cdot P$  ( )

(d)  $P' = S - T$  ( )

5. Digital differential analyzer algorithm is the \_\_\_\_ generation algorithm.

(a) straight line ( )

(b) point ( )

(c) circle ( )

(d) ellipse ( )

6. When line segments are scanned and converted in raster system \_\_\_\_ position must be calculated.

(a) pixel screen ( )

(b) line length ( )

(c) column of pixel ( )

(d) frame buffer ( )

7. SPLINE approximation method was developed by

(a) Pierre Bezier ( )

(b) Sutherland ( )

(c) Hodgeman ( )

(d) Bresenham ( )

8. The quadric surfaces are described with

- (a) first-degree equation ( )
- (b) second-degree equation ( )
- (c) third-degree equation ( )
- (d) None of the above ( )

9. MIDI message includes a status byte and up to \_\_\_ data bytes.

- (a) two ( )
- (b) three ( )
- (c) four ( )
- (d) eight ( )

10. An analog colour video signal contains

- (a) luminance ( )
- (b) brightness ( )
- (c) chrominance ( )
- (d) All of the above ( )

Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

1. In active-matrix display, thin-film transistor technology is used.  
( T / F )
2. The region against which an object is to be clipped is called Clip Window.  
( T / F )
3. Bresenham's algorithm is another incremental scan conversion algorithm.  
( T / F )
4. Torus is a sphere shape object.  
( T / F )
5. Cloning means giving life to any object in computer graphics.  
( T / F )

**SECTION—B**

( Marks : 10 )

Answer the following questions in short : 2×5=10

1. What are the applications of computer graphics?
2. Briefly explain the technique of text clipping.
3. Differentiate between points and lines.
4. What is ellipsoid?
5. What is hypertext?

( PART : B—DESCRIPTIVE )

( Marks : 50 )

*The figures in the margin indicate full marks for the questions*

1. (a) What is computer graphics? List out the different input devices that are typically used with virtual reality systems. 1+4=5
- (b) With a neat diagram, explain raster-scan system. 5
- OR**
- (c) Explain flat-panel displays. 5
- (d) Draw a diagram of CRT and simply explain the operation of CRT. 5

2. (a) What is clipping? Explain Sutherland-Hodgeman algorithm. 1+4=5
- (b) What is translation? Explain the two-dimensional transformation of rotation and scaling. 5

**OR**

- (c) Explain mirror reflection. Show and explain the reflection of an object about the  $x$ - and  $y$ -axis. 5
- (d) Explain line clipping by showing binary region codes with respect to the clipping rectangle. 5
3. (a) Explain mid-point circle algorithm. 10

**OR**

- (b) Set up a parallel version of Bresenham's line algorithm for straight lines of any slope. 10

4. (a) Differentiate between open-uniform B-splines and non-uniform B-splines. 4

(b) Explain the properties of Bezier curves. 6

OR

(c) Write the properties of B-spline curve. 2

(d) Explain superellipse and superellipsoid. 8

5. (a) What is animation? Briefly explain the basic animation technique. 6

(b) Differentiate between analog audio and digital audio. 4

OR

(c) Explain the different applications of multimedia. 5

(d) What is image compression? Giving an example, explain the different image formats. 5

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2018

(6th Semester)

**BACHELOR OF COMPUTER APPLICATIONS**

Paper No. : BCA-6E6

**( Internet and E-commerce )**

Full Marks : 75

Time : 3 hours

**( PART : A—OBJECTIVE )**

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

SECTION—A

( Marks : 15 )

1. Tick (✓) the correct answer in the brackets provided : 1×10=10

(a) Which of the following describes e-commerce?

(i) Doing business electronically ( )

(ii) Doing business ( )

(iii) Sales of goods ( )

(iv) All of the above ( )

(b) Which one of the following is not one of the major types of e-commerce?

(i) B2B ( ) (ii) C2B ( )

(iii) C2C ( ) (iv) All of the above ( )

(c) Which segment do eBay, Amazon.com belong?

(i) B2B ( ) (ii) B2C ( )

(iii) C2B ( ) (iv) C2C ( )

- (d) Which of the following is not a key element of a business model?
- (i) Value proposition ( )
  - (ii) Competitive advantage ( )
  - (iii) Market strategy ( )
  - (iv) Universal standard ( )
- (e) Which of the following is an example of Web portal?
- (i) Amazon ( )
  - (ii) eBay ( )
  - (iii) Yahoo ( )
  - (iv) Facebook ( )
- (f) A strategy designed to compete in all markets around the globe is called a — strategy.
- (i) scope ( )
  - (ii) differentiation ( )
  - (iii) cost ( )
  - (iv) focus ( )
- (g) Unique value auction is mainly applies to
- (i) new products ( )
  - (ii) second-hand product ( )
  - (iii) engineering products ( )
  - (iv) All of the above ( )
- (h) Which of the following is a new and disruptive Web feature or service?
- (i) CDMA ( )
  - (ii) XML ( )
  - (iii) Postscript ( )
  - (iv) Blogs ( )
- (i) Which of the following is a useful security mechanism when considering business strategy and IT?
- (i) Firewall ( )
  - (ii) Encryption ( )
  - (iii) Decryption ( )
  - (iv) All of the above ( )
- (j) A business cannot be all things to all people. Instead, a business must
- (i) identify target customers ( )
  - (ii) identify the value of products/services as perceived by the customers ( )
  - (iii) identify the distribution of products ( )
  - (iv) Both (i) and (ii) ( )

2. State whether the following are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

(a) Encryption can be done on any bit string. ( T / F )

(b) Compared to B2C e-commerce, B2B e-commerce is smaller. ( T / F )

(c) Trust risk is not considered to be a drawback of Internet auctions. ( T / F )

(d) Paisapay is facilitated in flipkart.com. ( T / F )

(e) Using e-medias transactions occur in e-commerce. ( T / F )

**SECTION—B**

( Marks : 10 )

Answer the following questions : 2×5=10

1. Define e-commerce.

2. What is physical commerce?

3. What is cryptography?

4. Define cloud computing.

5. What is IT Act, 2000?

**( PART : B—DESCRIPTIVE )**

( Marks : 50 )

*The figures in the margin indicate full marks for the questions*

1. (a) Define transaction. What are the advantages of e-commerce? 2+3=5

(b) Differentiate between traditional commerce and e-commerce. 5

**OR**

- (c) Differentiate between technical and non-technical limitations of e-commerce. 5
- (d) Explain B2B and C2C business model of e-commerce with suitable diagram. 5
2. (a) What is Web auction? Write the characteristics of Internet payment system. 2+3=5
- (b) Describe the process of payment with a credit card and a debit card. 5

**OR**

- (c) Distinguish between macropayment system and micropayment system. 5
- (d) Explain e-commerce strategies for marketing. 5
3. (a) Differentiate between e-business and e-commerce. 5
- (b) Explain the impact of e-business. 5

**OR**

- (c) Explain strategic positioning. 5
- (d) Explain business process and collaboration. 5
4. (a) Explain loosely couple system. 5
- (b) Differentiate between Web portal and Web services. 5

**OR**

- (c) Explain enterprise application integration. 5
- (d) What is Web service security? 5
5. (a) What is digital signature? Differentiate between encryption and decryption. 2+3=5
- (b) What are the essential requirements for safe e-payments/transactions? 5

**OR**

- (c) What is Internet security? State the functions of Firewall. 2+3=5
- (d) Explain different e-commerce security threats. 5

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VI/BCA/6E4

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2018

(6th Semester)

**BACHELOR OF COMPUTER APPLICATIONS**

(Elective)

Paper : BCA-6E4

**( IT Act and Cyber Law )**

Full Marks : 75

Time : 3 hours

**( PART : A—OBJECTIVE )**

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

**SECTION—A**

( Marks : 15 )

1. Tick (✓) the correct answer in the brackets provided : 1×10=10
- (a) The Information Technology (IT) Act, 2000 came into force on
- (i) 17th December, 2000 ( )
  - (ii) 9th June, 2000 ( )
  - (iii) 1st June, 2000 ( )
  - (iv) 17th October, 2000 ( ✓ )
- (b) The Information Technology Amendment Act, 2008 has come into force in
- (i) October 2008 ( )
  - (ii) January 2009 ( )
  - (iii) October 2009 ( )
  - (iv) None of the above ( )

- (c) The Controller of Certifying Authorities (CCA) works under
- (i) the Prime Ministers Office ( )
  - (ii) the Reserve Bank of India ( )
  - (iii) the Ministry of Communication and IT ( )
  - (iv) the Autonomous Body ( )
- (d) Which of the following is not an example of intellectual property?
- (i) QR code ( )
  - (ii) Trademarks ( )
  - (iii) Copyright ( )
  - (iv) Patent ( )
- (e) Which Act provides legal framework for e-governance in India?
- (i) Indian Penal Code ( )
  - (ii) IT Amendment Act, 2008 ( )
  - (iii) IT Act, 2000 ( )
  - (iv) Cyber Law ( )
- (f) Which Section of the IT Act deals with the legal recognition of electronic records?
- (i) Section 4 ( )
  - (ii) Section 2 ( )
  - (iii) Section 5 ( )
  - (iv) Section 6 ( )
- (g) E-mail that appears to have been originated from one source when it was actually sent from another source is termed as
- (i) e-mail bombing ( )
  - (ii) e-mail spoofing ( )
  - (iii) e-mail spamming ( )
  - (iv) junk mail ( )
- (h) The first cyber crime in Mizoram happened in
- (i) 1998 ( )
  - (ii) 2005 ( )
  - (iii) 2009 ( )
  - (iv) 2010 ( )
- (i) The explicit portrayal of sexual subject matter is termed as
- (i) ponagraphy ( )
  - (ii) pornography ( )
  - (iii) sexual crime ( )
  - (iv) sexual harassing ( )
- (j) Which agency made the investigation related to India's First Cyber Crime Conviction?
- (i) Mumbai Police ( )
  - (ii) Chennai Police ( )
  - (iii) CBI ( )
  - (iv) Kerala Police ( )

2. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5
- (a) The original term 'Cyber' came from Greek. ( T / F )
- (b) Hacking Web server and taking control on another person's Web site is called as Web hijacking. ( T / F )
- (c) The main purpose of the Data Protection Act is to increase the security of computer systems. ( T / F )
- (d) Legal recognition of digital signatures is not a component of the IT Act, 2000. ( T / F )
- (e) An example of intellectual property is copyright. ( T / F )

**SECTION—B**

( Marks : 10 )

Answer the following questions :

2×5=10

1. What is data protection and privacy?
2. Define Online Dispute Resolution (ODR).
3. What is the main object and scope of the IT Act?
4. Distinguish between E-mail spoofing and E-mail bombing.
5. What is Digital Signature Certificate?

**( PART : B—DESCRIPTIVE )**

( Marks : 50 )

*The figures in the margin indicate full marks for the questions*

1. (a) Define Cyber Crimes and Cyber Law in the context of Indian Cyber Law. 5
  - (b) Write a short note on the evolution of cyber crime in India. 5
- OR**
- (c) Write the major needs of Cyber Laws for data protection and privacy. 5
  - (d) Explain with suitable example about Web hijacking and Web defamation. 5

2. (a) Write a short note on the essence of digital contracts. 5  
 (b) Write the punishment for Cyber Fraud, Cyber Pornography and Intellectual Property Crimes under the IT Act. 5  
**OR**  
 (c) Explain the IT Act, 2000 and its major amendments. 5  
 (d) Explain the certifying authorities and liabilities for law of digital contracts. 5
3. (a) Explain about copyright protection of content on the Internet. 5  
 (b) Write any three Cyber Crimes and their punishments. 5  
**OR**  
 (c) Explain organizational issues and jurisdictional issues of Cyber Law. 5  
 (d) Write the salient features of Law of Digital Contracts. 5
4. (a) Explain e-governance with the major applicability of the IT Act. 5  
 (b) Explain with example about denial of service attack. 5  
**OR**  
 (c) Explain about the ownership of copyright under the IT Act, 2000. 5  
 (d) Write the major issues addressed by the IT Act, 2000. 5
5. (a) Discuss about the License of Copyright. 5  
 (b) Write the punishment under the IT Act, 2000. 5  
**OR**  
 (c) Write the major uses of electronic records and digital signatures in the government and its agencies. 5  
 (d) Define the following cyber crimes : 1×5=5  
 (i) Cyber stalking  
 (ii) Cyber terrorism  
 (iii) Salami attack  
 (iv) Online gambling  
 (v) Cyber pornography

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