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Code: 241702

B.Tech 7th Semester Exam., 2020

PERSONNEL MANAGEMENT AND INDUSTRIAL RELATIONS

Time: 3 hours

Full Marks: 70

Instructions:

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(i) The marks are indicated in the right-hand margin.

- (ii) There are NINE questions in this paper.
- (iii) Attempt FIVE questions in all.
- (iv) Question No. 1 is compulsory.
- 1. Answer any seven of the following in short :

2×7=14

- (a) What is job analysis?
- (b) List any four roles of a personnel manager.
- (c) Give any two objectives of transfer.
- (d) Mention two differences between discharge and dismissal.
- (e) Define the term 'social security'.
- (f) What do you understand by off-the job training methods?
- (g) Define trade union.

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(Turn Over)

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(2)

	(h)	What do you understand by living wage?	
	(i)	Differentiate between time rate and piece rate methods of wage payment.	
	(i)	Define employee induction.	
2.	Disc	is social security important for workers? russ social insurance and social stance as social security measures.	14
3.		ay personnel management has taken a tral role in organizations. Why?	14
4.	List	and explain the various steps involved in ployee selection. https://www.akubihar.com	14
5.	dev	lain the meaning of employee elopment. Discuss any four methods of bloyee development.	14
5.	cha	has the concept of industrial relations nged in recent times? Discuss the major vers in industrial relations in India.	14
7.		cuss the meaning and purpose of wages salary administration.	14
8.		ine performance appraisal. Discuss the ectives of performance appraisal.	14
9.		cuss the types and methods of trade	14

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B.Tech 7th Semester Special Exam., 2020

COMPUTER GRAPHICS

Time: 3 hours

Full Marks: 70

Code: 051735

Instructions:

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- (i) The marks are indicated in the right-hand margin.
- (ii) There are **MINE** questions in this paper.
- (iii) Attempt FIVE questions in all.
- (iv) Question No. 1 is compulsory.
- Explain any seven of the following terms:

2×7=14

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Computer graphics

Simulation

(c) Image processing

Virtual reality

Snapshot and frame

Frame buffer

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Raster-scan systems

Persistence

Resolution

Brightness

2. Explain the following:

7+7=14

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Jag free images on a raster CRT

Interactive graphics processor for digital logic situation system

3. (a) Compare point wise the following:

(i) LCD monitors vs CRT monitors

(ii) Random scan display vs Raster scan display

Consider a raster system with resolution 1280 by 1024. What size of frame buffer is needed for given system P-6 to store 24 bits per pixel? How many colors are possible in given system? What is the access time per pixel if refreshing rate is 60 frames per second?

8+6=14

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(3)

4. (a) What are graphics standards in 3-D models? Why do you need a graphic standard? Explain.

How does a graphic standard work with 7+7=14 a graphic application? Explain.

5. (a) Describe GKS. What are functionality and limitations of GKS? Explain. https://www.akubihar.com

(b) What are the uses of different classes of functions available in GKS? Explain.

6. Explain the following with respect to 7+7=14 graphical work stations:

- Routing output to graphical work stations
- Types of GKS and work stations
- 7. (a) List and describe the methods of
 - (b) Define motion path. Explain various specifications to define motion path.
 - 6+6+2=14 (c) What is morphing? Explain.

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(4)

8. Explain the 3-D reconstruction and its applications in detail.

9. Write short notes on any three of the following:

(of Raster CRT

(b) 3-D shading

(c) Digital image processing

Ray tracing

Uses of computer animations education

Uses of computer animations entertainment

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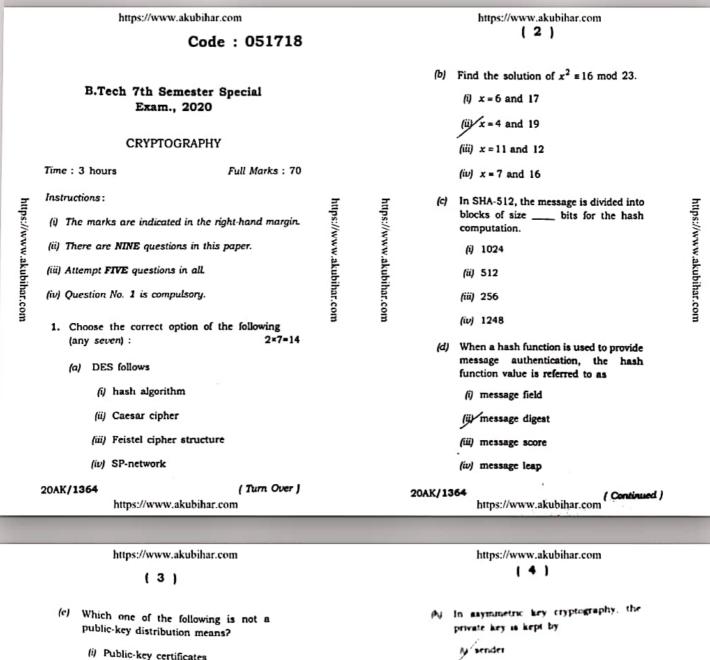
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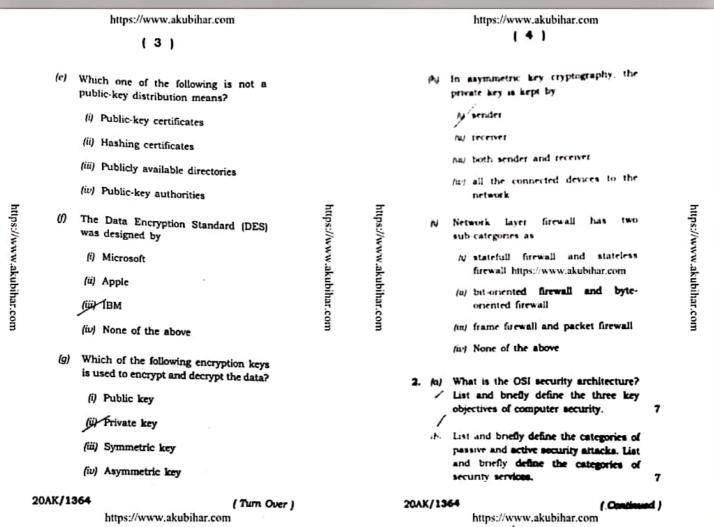
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creating animations.





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14

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scheme, each user has a public key, e, and a private key, d. Suppose Bob leaks his private key. Rather than generating a new modulus, he decides to generate a new public and a new private key. Is this safe? In a public-key system using RSA, you

Alice, Bob or both?

intercept the ciphertext C = 10 sent to a user whose public key is e = 5, n = 35. What is the plaintext M?

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using RSA which allows the two parties Alice

and Bob to agree on a shared secret key.

Who determines the key in this protocol,

Do the questions mentioned below on RSA:

In the RSA public-key encryption

 $7 \times 2 = 14$

(Continued)

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(6)

7. Briefly explain Diffie-Hellman key exchange. Alice and Bob use the Diffie-Hellman key exchange technique with a common prime q = 157 and a primitive root a = 5.

(a) If Alice has a private key XA = 15, find her public key YA.

(b) If Bob has a private key XB = 27, find his public key YB.

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public/private

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and the key both are all zeros?

6. One of the most attractive applications of

public-key algorithms is the establishment of

a secure session key for a private-key algorithm such as AES over an insecure

channel. Assume Bob has a pair of

cryptosystem. Develop a simple protocol

for

keys

MixColumns and AddRoundKey of AES.

Find all irreducible polynomials of

Shift

Rows.

the RSA

(Turn Over)

5. (a) Describe SubBytes,

degree 3 over GF(2).

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(7)

(a) What problem was Kerberos designed to address? What entities constitute a full service Kerberos environment? What are the threats associated with user authentication over a network or an Internet?

(b) Explain X.509 certificate.

Write short notes on the following:

S/MIME

(b) HMAC

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Digital signature

(d) / Denial of service attack

7

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(2)

B.Tech 8th Semester Exam., 2021

COMPUTER NETWORKS

Time: 3 hours

Full Marks: 70

Code: 051813

Instructions:

- The marks are indicated in the right-hand margin.
- (ii) There are NINE questions in this paper.
- (iii) Attempt FIVE questions in all.
- (iv) Question No. 1 is compulsory.
- 1. Choose the correct answer of the following (any seven):
 - (a) What layer in the TCP/IP stack is equivalent to the transport layer of the OSI model?
 - (4) Application
 - (ii) Host-to-host
 - (iii) Internet
 - (iv) Network access

AK-21/589

(Turn Over)

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(b) Which topology covers security, robust and eliminating traffic factor?

- (i) Mesh
- (ii) Ring
- (iii) Star
- (iv) Bus
- (c) Internetworking protocol is known as
 - (i) TCP
 - (ii) IP
 - (iii) ISP
 - HOT TCP/IP
- (d) Which device uses logical addressing system?
 - () Hub
 - (ii) Switch
 - (m) Bridge
 - fur Router

AK-21/589

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- (e) Consider an instance of TCP's Additive Increase Multiplicative Decrease (AIMD) algorithm where the window size at the start of the slow start phase is 2 MSS and the threshold at the start of the first transmission is 8 MSS. Assume that a time-out occurs during the fifth transmission. Find the congestion window size at the end of the tenth transmission.
 - (4 8 MSS
 - (ii) 14 MSS
 - (iii) 7 MSS
 - (iv) 12 MSS
- (f) Which transmission media has the highest transmission speed in a network?
 - (i) Coaxial cable
 - (ii) Twisted pair cable
 - (iii) Optical fiber

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(iv) Electrical cable

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- What is the maximum size of data that the application layer can pass onto the TCP layer below?
 - (i) Arry size
 - (ii) 2^16 bytes-size of TCP header
 - (iii) 2^16 bytes
 - (iv) 1500 bytes
- (h) The maximum window size for data transmission using the selective reject protocol with n-bit frame sequence numbers is
 - (i) 2^n
 - (i) -27(n-1)
 - (iii) 2^n-1
 - (iv) 24n-2)
- (i) Station A needs to send a message consisting of 9 packets to Station B using a sliding window (window size 3) and go-back-n error control strategy. All packets are ready and immediately available for transmission. If every 5th packet that A transmits gets lost (but no

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(8)

(7)

starting with 120.60.4.0/22. The ISP wants to distribute these blocks to 100 organizations with each organization receiving just eight addresses. Design the sub-blocks and give the slash notation for each sub-block. Find out how many addresses are still available after these allocations. 7+7=14

6. (a) Explain in detail about TCP/IP protocol suite with neat diagram.

Differentiate between forwarding and routing. 7+7=14

- 7. (a) Compare and contrast the protocol field at the network layer with the port numbers at the transport layer. What is their common purpose? Why do we need two port-number fields but only one protocol field? Why is the size of the protocol field only half the size of each port number?
 - (b) With a neat diagram, explain distance vector routing protocol. 7+7=14

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8. Draw and describe the TCP header. Assume that a host receives a UDP segment with 01011101 11110010 (we separated the values of each byte with a space for clarity) as the checksum. The host adds the 16-bit words over all necessary fields excluding the checksum and obtains the value 00110010 00001101. Is the segment considered correctly received or not? What does the receiver do?

14

9. Differentiate between POP3 and IMAP4. Suppose Alice, with a Web-based e-mail account (such as Hotmail or Gmail), sends a message to Bob, who accesses his mail from his mail server using POP3. Discuss how the message gets from Alice's host to Bob's host. Be sure to list the series of application-layer protocols that are used to move the message between the two hosts.

14

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