

Hall Ticket Number:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Code No. : 31521

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**B.E. (I.T.) III Year I-Semester Main & Backlog Examinations, December-2017**

**Computer Networks**

Time: 3 hours

Max. Marks: 70

*Note: Answer ALL questions in Part-A and any FIVE from Part-B*

**Part-A (10 × 2 = 20 Marks)**

1. Write the syntax and use of `fcntl()`.
2. Identify the use of a daemon process.
3. Differentiate between Routing and Forwarding.
4. Write the importance of Tunneling.
5. Distinguish between ARP and RARP.
6. List any four internet based applications that use TCP.
7. Define Resource Record. List the fields a resource record contains.
8. Briefly explain the use of Cookies.
9. Illustrate a Substitution cipher with an example.
10. Define Public Key Infrastructure (PKI)? Mention various components of PKI.

**Part-B (5 × 10 = 50 Marks)**

11. a) Examine the need of layering? Draw the seven layers of OSI model and explain the function of each layer in detail. [5]  
b) Explain about the architecture of RPC. List some issues of RPC. [5]
12. a) Compare and contrast link-state and Distance-Vector routing algorithms. [6]  
b) Describe two major differences between the Warning bit method and the RED method. [4]
13. a) Compare and contrast the IPv4 and the IPv6 header fields. Do they have any fields in common? [4]  
b) Indicate the position of RTP in the protocol stack. Explain how RTP operates in transporting audio and video data in packets. [6]
14. a) Describe how SMTP protocol is used in an e-mail applications. Differentiate between POP3 and IMAP. [5]  
b) How does DNS work? Explain with a neat sketch. [5]
15. a) What are Message Digests? How are they useful in implementing Digital Signatures? [4]  
b) Write short notes on RSA algorithm. Encrypt the message "This is encrypted text" using the values  $P=7$  and  $Q=17$ . [6]
16. a) List out the various advanced socket system calls and write its' syntax. [4]  
b) Explain about the Distance Vector routing algorithm with an example. [6]
17. Answer any *two* of the following:  
a) How is Internet Multicasting implemented? [5]  
b) Compare and contrast HTTP with FTP. [5]  
c) Describe how is a shared key established using Diffie-Hellman key exchange algorithm. [5]