T.Y.B.SC.(I.T.)(SEM-VI)
Internet Technologies
(Revised) (DEC - 2018)

(3 Hours) [Total Marks: 100]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1.	**Attempt *any two* of the following:**	**10**
a.	Explain the options in IPv4	
b.	List different types of BGP Messages and write the purpose of each.	
c.	Explain the concept of NVT and NVT Character Set.	
d.	Compare TCP with UDP.	

2.	**Attempt *any three* of the following:**	**15**
a.	Why do you need Subnetting in Classfull Addressing? Explain.	
b.	List functionalities of Transport Layer. Explain any four.	
c.	What is fragmentation? Which fields changes over datagram during fragmentation in routing? Explain.	
d.	Compare IPV4 with IPV6.	
e.	What are the special addresses used in IPv4?	
f.	How is the address space allocated for IPv6 Addresses?	

3.	**Attempt *any three* of the following:**	**15**
a.	Explain the Distance Vector Algorithm used in Routing Information Protocol.	
b.	Mobile IP communication can be Inefficient. Why? What is its Solution? Explain.	
c.	What is Address Resolution Protocol? What is its use? Explain the ARP Request and Reply Messages.	
d.	What is the use of Query Messages? Explain any one	
e.	List and explain the different types of links in OSPF.	
f.	What is link State Routing? Explain with suitable.	

4.	**Attempt *any three* of the following:**	**15**
a.	Explain with examples how checksum is calculate in UDP.	
b.	Explain Half Close in TCP Connection Termination.	
c.	What are the different timers in TCP? Explain each in detail.	
d.	Explain NUMBERING system use in TCP.	
e.	Draw TCP Segment Format. Write the purpose of each field.	
f.	What is the concept of 3-Way Handshaking in TCP Connection establishment? Explain.	

5.   **Attempt _any three_ of the following:**   15
a   Write a short note on DNS.
b   Draw and explain the DHCP Client Transition Diagram.
c   Explain SCTP association establishment and Termination.
d   Explain Recursive Resolution and Iterative Resolution used in Domain Name Service.
e   Explain the Character Mode and Line Mode of TELNET Operation.
f   List and explain the components of SSH.

6.   **Attempt _any three_ of the following:**   15
a.   Write the purpose of any four MIB Objects.
b.   Explain the following email scenarios with the help of diagrams:
        (i) When the sender and the receiver of an e-mail are on different mail servers.
        (ii) When sender is connected to the mail server via LAN or a WAN.
c.   Differentiate between POP3 and IMAP.
d.   Write a short note on MIME.
e.   Explain the four approaches to streaming stored audio/video.
f.   Write a short note on URL.

7.   **Attempt _any three_ of the following:**   15
a.   Explain how UDP socket programming works?
b.   Write a note on Server Socket.
c.   Write a UDP Socket program which reads a string from client, calculate its length and
     sends it back to the client.
d.   Write TCP Socket Program to find whether a number is odd or even.
e.   Write a JAVA code for UDP Server application to check whether the number is
     divisible by 15 and 27.
f.   Write UDP socket program that will display number of vowels in a string.

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T.Y.B.SC.(I.T.)(SEM-VI)
Digital Signals and Systems
(Revised) (DEC - 2018)

Q. P. Code: 39337

Hours   **Marks: 100**

Note :   1) All questions are compulsory.
                    2) Make suitable assumptions wherever necessary and state the assumptions made.
                    3) Numbers to the right indicate marks.
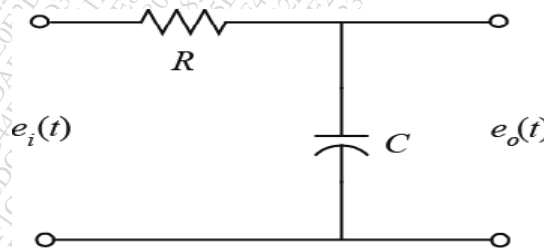
Q. 1   Attempt *any two* of the following   **10**
(a) Defined term system .discuss the classification of it?
(b) state and prove parsevals theorem for Fourier transform?
(c) What are the advantages of Digital Signal Processing (DSP) over Analog Signal Processing(ASP)?
(d) Find even and and odd components of $x(t)=e^{jt}$

Q. 2   Attempt *any three* of the following   **15**
(a) State any five properties of unit impulse function?
(b) Defined term signal and give the classification of signals?
(c) Give graphical representation of any four test signals withexpression?
(d) Test following signals are periodic or non periodic
   i. $x[n]=\cos 2n$ ii. $X(t)=\sin 2t + \cos\frac{\pi}{3}t$
(e) Determine the following signals are energy,power,or neither.
   i.$x(t)=e^{-at}u(t)$ ii. $x[n]=u[n]$
(f) Explain stability in Linear Time Invariant system. What is the condition forsystem?

Q. 3   Attempt *any three* of the following   **15**
(a) Find laplace transform of $\sin\alpha t.\cos in\beta t$
(b) State any five properties of Laplace transform .
(c) Defined laplace   transform .Find the Laplace transform of tu(t).
(d) Obtain Laplace transform for step and Impulse Responses given Circuit

(e) Using various laplace tranform properties ,derive the laplace transforms of
   followings signals
   i.x(t)=tu(t) ii.x(t)=te^{-at}u(t)
(f) find inverse laplace transform of followings X(S)

   I. $X(S)=\frac{2S+4}{S^2+4S+3}$II. $X(S)=\frac{S^2+4S+7}{S^2+3S+2}$

Q. 4 **Attempt** *any three* **of the following** 15
 (a) State and explain the properties of z- transform
 (b) Explain initial and final value theorem in terms of z transform with 0ne example.
 (c) A finite sequence x[n] is defined as $X[n]=\{5,3,-2,0,4,3\}$ find X(Z)
 (d) Give relation between Z and laplacetransform
 (e) Find inverse laplace transform of$X (Z)=3/(Z − 3)|Z| > 3$
 (f) Define z-Transform. Obtain z transform $x[n]=a^n n[n]$

Q.5Attempt *any three* **of the following** 15
 (a) Compute the impulse response of the system
   $y(n)=0.7y(n-1)-0.12y(n-2)+x(n-1)+x(n-2)$
 (b) Check whether the system $F[x(n)]= n[x(n)]^2$ is Linear and Time-Variant.
 (c) What is convolution? What are the properties of convolution?
 (d) What is the condition for z-Transform to exist?
 (e) What is frequency response? What are the properties of it?
 (f) Compare the properties of two-sided z-transform with those of one-sided.

Q. 6 **Attempt** *any three* **of the following** 15
 (a)State and explain the properties of Discrete Fourier transform.
 (b)Define Discrete Fourier Transform (DFT) for signum function
 (c)Compute Linear and Circular Periodic Convolutions of the sequence
   (i) $x1[n]= \{1,1,2,2\}$ and$x2[n]= \{1,2,3,4\}$ using DFT.
 (d)Compute four point DFT of $X[n]=\{0,1,2,3\}$
 (e)State the relationship between DFT and z-Transform
 (f)What are the methods used to perform Fast Convolution. Explain any one
 method giving all the steps involved to perform Fast   Convolution.

Q. 7 **Attempt** *any three* **of the following** 15
 (a)State the advantages of Digital filters.
 (b)Describe elliptical filters in detail
 (c)Obtain the system functions of normalized Butterworth filters for order N = 1 & 2.
 (d)Explain the procedure for designing an FIR filter using Kaiser window.
 (e) Explain the effects of windowing. Define Rectangular and Hamming window   `
   functions?
 (f)Describe the Inverse Chebyshev filters.

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T.Y.B.SC.(I.T.)(SEM-VI)
Datawarehousing
(Revised) (DEC - 2018)

(3 Hours) [Total Marks: 100]

N. B.: (1) **All** questions are **compulsory**.

(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.

(3) Answers to the **same question** must be **written together**.

(4) Numbers to the **right** indicate **marks**.

(5) Draw **neat labeled diagrams** wherever **necessary**.

(6) Use of **Non-programmable** calculators is**allowed**.

1. **Attempt *any two* of the following:** 10
a. What is data warehouse? Discuss the advantages of data warehouse.
b. Differentiate between data marts and Exploration facility.

c. What is Changed Data Capture in ETL? Explain.
d. List the types of statistics collected for monitoring the functioning of data warehouse.

2. **Attempt *any three* of the following:** 15
a. Write short note on Spider Web Environment.
b. Outline the factors which led to the evolution of DW 2.0.
c. Explain in brief the Life Cycle of data in DW 2.0.
d. List the reasons which make Metadata very important in DW 2.0 architecture.
e. List and explain briefly the various data structures found in integrated Sector.
f. What are the steps involved in processing of Unstructured data?

3. **Attempt *any three* of the following:** 15
a. Differentiate between Active and Passive Repository.
b. Describe internal and external taxonomy in the unstructured DW 2.0 with the help of an example.
c. Explain key features of Spiral development methodology for DW 2.0.
d. Describe Heuristic Analysis. What is freezing of data and Why is it required?
e. What is Exploration facility? List its sources of data.
f. List and briefly explain the activities involved in seven streams approach to DW/BI projects.

4. **Attempt *any three* of the following:** 15
a. What is a data model? Explain the different levels of data model.
b. Write a note on transformation of data model across different sectors.
c. Explain briefly the types of monitors used to monitor DW 2.0 environment.
d. List the various aspects of data which is examined by the ETL Data Quality Monitor.
e. Discuss the different security measures employed for data warehouse.
f. How can one sense attack on DW 2.0

5. **Attempt _any three_ of the following:** **15**
a   Explain Discrete and Continuous time span data with an example of each. What is significance of these?
b   What is time collapsed data? Explain.
c   What are the three exceptional flow of data in DW 2.0? Explain briefly.
d   How does ETL act in Online and Batch mode? Discuss.
e   How is the rejected data handled in ETL processing?
f   What is **ELT**? List the drawbacks associated with it.

6. **Attempt _any three_ of the following:** **15**
a.   What is Granularity Manager? List the main functions of Granularity manager.
b.   Discuss few ways in which the performance of DW environment can be improved?
c.   How is Analytical environment different from Transactional Environment?
d.   Differentiate between Farmers and Explorers of data in DW 2.0 scenario.
e.   How can Enterprise Metadata can be created.
f.   Explain briefly the different ways in which Data Warehouse can be migrated to DW2.0.

7. **Attempt _any three_ of the following:** **15**
a.   Explain the physical design process briefly with the help of a diagram.
b.   What are the different components of physical model?
c.   List the conditions under which pilot deployments are useful.
d.   Explain briefly the major activities involved in deployment of data warehouse.
e.   What are the three main subjects in user training material? Why are they important?
f.   List any five factors which are to be part of ETL management.

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T.Y.B.SC.(I.T.)(SEM-VI)
(Elective – I)
IPR and Cyber Law
(Revised) (DEC - 2018)   (3 Hours)   [Total Marks: 100]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1.   **Attempt _any two_ of the following:**   10
a.   What is IPR? Explain the concept of IPR law.
b.   Write a note on WIPO Treaty.
c.   Explain the trademark and rights reserved with it.
d.   What are the different issues in the cyber world?

2.   **Attempt _any three_ of the following:**   15
a.   Explain the principle of Patent Law.
b.   What are the different steps to apply for patent?
c.   What is trademark? What are it's function?
d.   Explain the Design Right in detail.
e.   What is copyright law in Intellectual Property?
f.   What are the contents of Patent Specification?

3.   **Attempt _any three_ of the following:**   15
a.   What is the need of computer software protection under intellectual Property?
b.   Explain the concept copyright protection and reproduction of computer software.
c.   What is UK Data Protection Act?
d.   Explain the different principles provided by US safe Harbor Principle?
e.   What is Domain Name? Explain the registration process of domain name.
f.   Explain SCPA in detail.

4.   **Attempt _any three_ of the following:**   15
a.   What is Patent? Explain the rights reserved under it.
b.   Explain the different types of an assignment.
c.   What is copyright? How to transfer a copyright?
d.   Write a note on Protection Of Goodwill.
e.   How to defend against a claim of trademark infringement?
f.   Explain the objectives of Design.

5.   **Attempt _any three_ of the following:**   15
a   What are general obligations for enforcement of IPR?
b   What is IP licensing? What are advantage and disadvantage of it?
c   Discuss the concept of technology licensing? Give benefits of it.
d   Explain the practical aspects & clauses required to licensing.
e   What are the different types of criminal remedies?
f   Discuss the point "Border security measures for enforcement of IPR".

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6.   Attempt *any three* of the following: 15
a.   What is Cyber law? Explain the scope of cyber law.
b.   Explain the concept of Cyber jurisprudence.
c.   Describe the Digital Signature? Explain the need of it.
d.   What are the different roles of certifying authority?
e.   What are Domain Name disputes? What are issues related to Domain Names?
f.   What is the concept of E-Governance?

7.   Attempt *any three* of the following: 15
a.   What are the objectives of IT Act 2000?
b.   What does chapter 4 IT Act 2000 specify?
c.   How Data Protection Law implemented in EU &USA?
d.   What is the Malaysian Approach to Cyber law?
e.   Explain the different issues about cyber law in E-business.
f.   Explain sec 79 to 90 of Information Technology act 2005.

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T.Y.B.SC.(I.T.)(SEM-VI)
(Elective – I) GIS
(Revised) (DEC - 2018)

(3 Hours) [Total Marks: 100]

N. B.: (1) **All** questions are **compulsory**.
    (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
    (3) Answers to the **same question** must be **written together**.
    (4) Numbers to the **right** indicate **marks**.
    (5) Draw **neat labeled diagrams** wherever **necessary**.
    (6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt _any two_ of the following:**   10
a. What is rasterization and vectorization?
b. Explain Raster Data Query
c. Explain the process of Map production
d. Explain the difference between ordinary and universal Kriging method.

2. **Attempt _any three_ of the following:**   15
a. Difference between Vector data & Raster Data
b. Short note on TIGER
c. What is geodatabase model? Explain its advantage.
d. What is projected coordinate system? Explain ant one system.
e. Explain the following terms of object based data model and give suitable example.
    i. Aggregation   ii. Association
f. List and explain GIS operations related to data analysis.

3. **Attempt _any three_ of the following:**   15
a. What are the existing GIS data available? Explain any two.
b. Write a short note on scanning
c. Explain the various data conversion techniques available in GIS package.
d. List and explain the various transformation methods available.
e. Explain the bilinear interpolation resampling method with suitable example.
f. What is Root Mean Square error in geometric transformation? Explain the role of RMS error in Affine transformation.

4. **Attempt _any three_ of the following:**   15
a. What is Attribute Data? Explain how attribute data is represented in GIS
b. What is relational database? Explain with an example
c. Explain file and hierarchical database with suitable example.
d. Explain the importance of Layout in Map designs
e. List the various types of Maps available and explain any two in detail.
f. What is cartography? Explain its basic element(Symbolization)

5. **Attempt _any three_ of the following:**   15
a Define Data Exploration. What is descriptive statistics?
b What are the different types of graphs used for data exploration?
c Explain SQL used for Attribute data query in GIS with the help of an example
d Explain with suitable example the query by cell value type of raster data query.
e Explain the various spatial feature selection processes in Spatial Data Query.

f   Explain the map based data manipulation that is commonly used in GIS and geovisualization.

6.   Attempt _any three_ of the following: **15**
a.   What is overlay and explain the common errors in it
b.   Explain the following map manipulation operations with example.
    i. Clip   ii. Split
c.   What is Raster data analysis environment? Explain
d.   Explain Zonal Operations and its applications
e.   Write a short note on Distance Measurement
f.   Explain Local Operations and its applications

7.   Attempt _any three_ of the following: **15**
a.   Explain the Thiessen Polygons method for spatial interpolation
b.   What is Kriging? Explain
c.   Explain the Density Estimation local method.
d.   Explain the Global methods used for spatial interpolation
e.   Describe how semivariance can be used to qualify the spatial dependence in a data asset.
f.   Explain how one can use the validation technique for comparing different interpolation methods

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(3 Hours)   [Total Marks: 100]

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    (3) Answers to the **same question** must be **written together**.
    (4) Numbers to the **right** indicate **marks**.
    (5) Draw **neat labeled diagrams** wherever **necessary**.
    (6) Use of **Non-programmable** calculators is **allowed**.

1.   **Attempt _any two_ of the following:**   10
a.   List Bohem's top 10 principles of conventional s/w management performance.
b.   Write short note on test artifacts.
c.   Emphasize on the Work Breakdown Structure.
d.   Explain with diagram the concept of round-trip engineering.

2.   **Attempt _any three_ of the following:**   15
a.   State 5 necessary improvements of waterfall model.
b.   List and explain the 3 generation of s/w development.
c.   Explain the process of cost estimation.
d.   Write short note on peer inspection.
e.   State the 5 approaches for improvement of s/w cost model.
f.   Write brief note on event sequences necessary for performance assessment.

3.   **Attempt _any three_ of the following:**   15
a.   List the principles of modern s/w system.
b.   Explain the process of team cohesion.
c.   Explain the 2 stages of life-cycle with the help of diagram.
d.   What are the artifacts? How artifacts are organized into different set of the system?
e.   Write short note on transition phase.
f.   Emphasize on the cultural issues raised by the pragmatic artifacts.

4.   **Attempt _any three_ of the following:**   15
a.   List top-level workflow of the s/w process and explain them.
b.   Explain the integration workflow with detailed labelled diagram.
c.   Write short note on minor milestone.
d.   Discuss the stakeholders of major milestones of the project.
e.   Why periodic assessment is must for the successful development of the s/w?
f.   Explain bottom-up approach of cost and schedule estimation.

5.   **Attempt _any three_ of the following:**   15
a   Why automation of process is important in s/w development project?
b   Draw a neat diagram of roles in an s/w line-of-business organization.
c   Write short note on Project Organization.
d   List the different set of activities evolved over the life cycle with the help of the diagram.
e   List and explain different tools that automate the s/w development process.
f   Write short note on s/w change order.

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6.   **Attempt _any three_ of the following:**   **15**

a.   List various indicators of management metrics and explain them.

b.   Why process control and instrumentation is required in s/w development process.

c.   Explain different features of process discriminants.

d.   Compare between small-scale and large-scale projects.

e.   What are process discriminants? List the various dimensions need to be considered while tailoring a process.

f.   State and explain the four primary indicators of quality.

7.   **Attempt _any three_ of the following:**   **15**

a.   Explain the process of denouement.

b.   State two major improvements in next-generation s/w cost estimation.

c.   Draw a labelled diagram of automation of construction process in next-generation environment.

d.   What are issues involved in the conventional system development and how they can be resolved in the modern technique of developing s/w?

e.   Explain the effect of 80-20 rule over the development of the project.

f.   Write short note on culture shift.

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T.Y.B.SC.(I.T.)(SEM-VI)
C #
(Old) (DEC - 2018)

Q.P. CODE: 35224

(3 Hours)   [Total Marks: 100]

N. B.: (1) **Question** No. **1** is **compulsory**.
   (2) Attempt **any four** from **Question Nos. 2 to 7**.
   (3) Make **suitable assumptions** wherever necessary and **state the assumptions made**.
   (4) Answers to the **same question** must be **written together**.
   (5) **Numbers** to the right indicate marks.
   (6) Draw **neat labeled diagrams** wherever **necessary**.

1 a Write short note on .NET framework.   5
   b List and explain various data types in c#.   5
   c Explain about command line arguments in brief.   5
   d Explain enumerations with example.   5

2 a Write a program to print the following pattern using nested for loop.   8
```
1
3 2
5 4 3
7 6 5 4
9 8 7 6 5
```
   b Explain various types of constructors with example.   6
   c Explain relational and logical operators in detail.   6

3 a What is a loop? Explain 'while' loop and 'foreach' loop with example.   8
   b List various types of method parameters in c#. Explain any two of them with   6
      example.
   c Write short notes on: 6
      i. Variable size array
      ii. ArrayList class

4 a Write a program to create an abstract class Car with data members   8
      manufacturer, model and price. Include relevant constructors for the
      initialization of these data members. It also has an abstract method
      primeFeatures() for displaying the prime features of cars. From this class
      derive another class called LuxuryCar which has bool type data members
      seat_ventilation, seat_massager, multi_function_steering_wheel and
      navigation_system to record whether these features are available or not.
      Create an object of LuxuryCar and print its features from Main method.
   b Differentiate between interfaces and abstract classes.   6
   c What is the difference between method overriding and method overloading?   6
      Explain method overriding with example.

5. a Write a program that prints the abbreviation of a given string. Say for example, if the input string is "bharat sanchar nigam limited", its abbreviation will be printed as "BSNL". **8**

   b Explain inclusion polymorphism with example. **6**

   c What is an Indexer? Explain read-write Indexer with an example. **6**

6. a What is a delegate? Explain multicast delegate with an example. **8**

   b Write short notes on each of the following: **6**
      i. general catch handler
      ii. finally block
      iii. checked exceptions

   c What is the general format of the standard numeric format? Explain currency formatting and integer formatting with example. **6**

7. a Design a class ComplexNumber with two integer data members that represent real and imaginary parts of a complex number. Include relevant constructors and a method to display a complex number in "real+i imaginary" format. Also define relevant operator methods inside the ComplexNumber class to perform the following operations from the Main method. **8**
   ComplexNumber c1=new ComplexNumber(3,4);
   ComplexNumber c2=new ComplexNumber(8,1);
   ComplexNumber c3=c1+c2;
   ComplexNumber c4=c1-c2;
   c4++;

   b What are immutable strings? Explain methods of String class, for comparing and concatenating two strings. **6**

   c What are interfaces? Explain explicit interface implementation with example. **6**

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Paper / Subject Code: 70803 / C. R. M. (Customer Relations Management).

Q.P. CODE: 35230

(3 Hours) [Total Marks: 100]

N. B.: (1) Question **No. 1** is **compulsory**.
  (2) Attempt **any four** from **Question Nos. 2 to 7**.
  (3) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
  (4) Answers to the **same question** must be **written together**.
  (5) Numbers to the **right** indicate **marks**.
  (6) Draw **neat labeled diagrams** wherever **necessary**.
  (7) Use of **Non-programmable** calculators is **allowed**.

Q. 1 **Answer the following questions:-**
  a What are the advantages and disadvantages of ASP? 5
  b Explain the components of CRM. 5
  c Discuss the function of Call Centers. 5
  d Explain the features of E-CRM. 5

Q. 2 a Explain the training methods which are used to train the users during CRM. 8
  b Justify the need of SFA in CRM. 6
  c Describe the role of ASP. 6

Q. 3 a Explain the various methods used to evaluate the customer life time values. 8
  b What are the various dimensions of E-CRM? 6
  c Write short note on Partner Relationship Management. 6

Q. 4 a Explain the concept Opt in and Opt out. 8
  b What is Cross Selling? Explain. 6
  c Discuss the features of Web Enablement process with Call Centers. 6

Q. 5 a How does customer life time value has an impact on business improvement? 8
  b Explain the role of IT staff as team member for implementing CRM process. 6
  c Write short note on Prototyping. 6

Q. 6 a What are the phases involved in CRM project? Explain. 8
  b Discuss the role of Reporting tools with reference to SFA. 6
  c Write short note on ACD. 6

Q. 7 Mobile Telephony industry grew enormously because the new users embraced 20
mobile technology. The cost required new mobile phone was very high because
of carriers heavily subsidized handset and retailer costs to make it easier for new
users to sign up for new service. As a result carriers face a pressing need to
maximize their average return per user (ARPU) by retaining their best customers
for as long as possible. This challenge is particularly acute in the face of showing
growth due to market saturation and the impending expiration of many original
customers' service plans.

State at least four goals that the company must adopt so that it keeps old customers
and adds the new customers. Give strategies to implement these goals

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T.Y.B.SC.(I.T.)(SEM-VI)
Internet Technologies
(Old) (DEC - 2018)

(3 Hours)   **[Total Marks: 100]**

N. B.: (1) Question **No. 1** is **compulsory**.
      (2) Attempt **any four** from **Question Nos. 2 to 7**.
      (3) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
      (4) Answers to the **same question** must be **written together**.
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      (6) Draw **neat labeled diagrams** wherever **necessary**.
      (7) Use of **Non-programmable** calculators is **allowed**.

1	A	Write a short note on ARP packet format.	5
	B	Differentiate between RMI and CORBA.	5
	C	What are the components of WLAN? How can it be set up?	5
	D	Path Vector Routing is better than Distance Vector Routing and Link State Routing. Explain.	5
2	A	List and explain different types of messages used in BGP.	8
	B	Explain CORBA architecture. What is ORB?	6
	C	Write a RMI program for finding factorial of a number.	6
3	A	Explain any eight CORBA services.	8
	B	Explain cache control module in ARP.	6
	C	Explain socket class and server socket class with their respective methods.	6
4	A	Write a simple client server application using TCP where a client sends a number to the server and the server reverses the number and sends the reverse number to the client.	8
	B	Write a short note on Bluetooth.	6
	C	Draw and explain the different fields in IP header.	6
5	A	A link state update packet can contain which five types of LSA. Explain them.	8
	B	Discuss the silly window syndrome created by sender and its solution.	6
	C	Write a short note on RARP.	6
6	A	Explain the process of connection establishment and connection termination in TCP.	8
	B	Describe the distributed garbage collection in RMI.	6
	C	Differentiate between TCP and UDP programming.	6
7	A	List different types of packets available in BGP. Explain any three in detail.	8
	B	What is routing table? Explain the different fields in distance vector routing table.	6
	C	What is the purpose of retransmission timer in TCP? How is retransmission time calculated.	6

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T.Y.B.SC.(I.T.)(SEM-VI)
Total Supply Chain Management
(Old) (DEC - 2018)

Q.P. Code :35238

(3 Hours) [Total Marks: 100]

N. B.: (1) **Question** No. **1** is **compulsory**.
     (2) Attempt **any four** from **Question Nos. 2 to 7**.
     (3) Make **suitable assumptions** wherever necessary and **state the assumptions made**.
     (4) Answers to the **same question** must be **written together**.
     (5) **Numbers** to the right indicate marks.
     (6) Draw **neat and labeled diagrams** wherever **necessary**.

1	a	What is SCM? Explain the Logistics Management Process.	10
	b	Explain how the transportation plays a role of back bone for Supply Chain.	10
2	a	How SCM is helpful in getting the competitive advantage?	8
	b	Discuss the factors considered for selecting plant location.	6
	c	Explain EOQ as push model of inventory management.	6
3	a	What the purchasing will be made effective?	8
	b	What is role of purchasing manager in the purchasing process?	6
	c	Write a note on QRL.	6
4	a	List and explain different distribution types and intermediaries involved.	8
	b	Write a note on global transportation management.	6
	c	Write a note on Inter modal Transportation.	6
5	a	What is Bill of Lading? Explain the five exceptions for not holding carrier responsible for damage of the goods.	8
	b	What is material handling? What are its objectives?	6
	c	Discuss the issues concerned for selection of transportation mode.	6
6	a	Explain the use of Technology in Sales and inventory management.	8
	b	What is buffer stock? What is its importance in inventory?	6
	c	Explain the types of warehouses	6
7	a	What is Logistics Information System? How it helps to achieve competitive advantage.	8
	b	Explain the criteria's for selecting the carrier.	6
	c	Write a note on Inventory carrying cost.	6

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Q. P. Code: 35244

(3 Hours) [Total Marks: 100]

N. B.: (1) Question **No. 1** is **compulsory**.
      (2) Attempt **any four** from **Question Nos. 2 to 7**.
      (3) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
      (4) Answers to the **same question** must be **written together**.
      (5) Numbers to the **right** indicate **marks**.
      (6) Draw **neat labeled diagrams** wherever **necessary**.
      (7) Use of **Non-programmable** calculators is **allowed**.

1	A	What is software piracy? Explain the different ways to beat piracy.	5
	B	What are powers of central government with respect to patent?	5
	C	What is Innovation? What are 4 Ps of innovation?	5
	D	Explain copyright, patent and trademark.	5
2	A	What is fair use? What are the rules that should be considered when deciding whether or not a particular use of an author's work is a fair use?	8
	B	What are the different levels of product? Explain the product design process. What is product design specification? Explain.	6
	C	What is domain name? What are its different types?	6
3	A	What are non-compete agreements? What is the purpose of non-compete agreements? How does it protect employers and state the factors on which the enforcement of non-compete agreement depends?	8
	B	What is trademark? What are its functions? What are the rights of the proprietor of trademark?	6
	C	Explain in detail meta-tagging and framing.	6
4	A	What is a Questionnaire? What is an Interview? What are its purpose, advantages and disadvantages.	8
	B	Explain Product Development along with the process involved in Product Development.	6
	C	What are the characteristics of Copyright?	6
5	A	Discuss the main features of IT act 2000.	8
	B	"Companies manage their intellectual capital into two sets viz., Product and Process Companies, Service Companies". Discuss.	6
	C	What is a digital signature certificate? How is a network service provider not liable in certain cases?	6
6	A	What are the conditions to be satisfied by the inventions to be patentable? Explain the procedure to obtain a patent.	8
	B	What is Branding? What are the essential characteristics of a good brand? What are the advantages and disadvantages of branding?	6
	C	What is cyber squatting? Explain with examples.	6
7	A	Explain in detail the intellectual property management system.	8
	B	Explain electronic governance.	6
	C	What are the types of uses that are usually deemed fair uses?	6

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t Code: 70804 / Elective : III : Strategic IT Management.

Q. P. Code: 35235

(3 Hours) [Total Marks: 100]

N. B.: (1) Question **No. 1** is **compulsory**.
(2) Attempt **any four** from **Question Nos. 2 to 7**.
(3) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(4) Answers to the **same question** must be **written together**.
(5) Numbers to the **right** indicate **marks**.
(6) Draw **neat labeled diagrams** wherever **necessary**.
(7) Use of **Non-programmable** calculators is **allowed**.

1 A Give your views and examples to support the following quotes made by the eminent personalities. **20**
   i.   You do not choose to become global. The market chooses for you; it forces your hand. – Alain Gomez, CEO, Thomson, S.A.
   ii. Successful business strategy is about actively shaping the game you play, not just playing the game you find. – Adam Brandenburger and Barry Nalebuff.
   iii. Management's job is not to see the company as it is …. But as it can become – John Teets, CEO, Greyhound Corporation
   iv. Competing in the marketplace is like war. You have injuries and casualties, and the best strategy wins. – John Collins

2 A What do you understand by "SWOT Analysis" Why is it considered to be important in order to determine the company's current position? Explain with reference to any single business organization. **8**
   B What do you understand by Mission statements? Explain the different types of Mission statements using two examples of single business organization and two examples of diversified organizations. **6**
   C Explain the difference between Long Range Objectives and Short Range Objectives? Why is Objective Setting preferred using Top-Down approach? Explain with two relevant examples. **6**

3 A Explain in brief the five forces of Competition. What is their impact on the organizations strategy? **8**
   B Explain along with a suitable diagram the three strategy horizons for sustaining rapid growth. **6**
   C Explain any five strategies employed by Runner-Up Firms to compete in the market. **6**

4 A What is a Company Value Chain? Why do the Value Chains of Rival Companies often differ? Draw a Representative Company Value Chain and explain it. **8**
   B Explain along with a suitable diagram the three strategy horizons for sustaining rapid growth. **6**
   C What is diversification? Explain the three tests for judging a diversification move. **6**

5 A Why do companies expand into foreign markets? What is the difference between competing internationally and competing globally? **8**
   B Explain the impact of Internet Technology on "Internal Operating Efficiency" and "Distribution Channel Efficiency". **6**
   C Explain any five strategies employed by Runner-Up Firms to compete in the market. **6**

6 A What is the impact of the Internet on the following factors concerned with Competitive Environment? Explain in brief. **8**
   (a) Competitive Rivalry   (b) Barriers to Entry
   (c) Buyer Bargaining Power   (d) Supplier – Seller Collaboration
   B Explain the Strategy Options for Local Companies in Competing against Global Challengers. **6**
   C What is differentiation strategy? When does a differentiation strategy works best? What are the pitfalls of a differentiation strategy? **6**

7 A Explain Outsourcing and Strategic intent in detail. **8**
   B What is Corporate Culture? Where does Corporate Culture come from? Explain in brief. **6**
   C Discuss the different methods for creating a strong fit between Strategy and Culture. **6**

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Q.P. Code : 35239

(3 Hours) [Total Marks: 100]

N. B.: (1) Question **No. 1** is **compulsory**.
    (2) Attempt **any four** from Question Nos. **2 to 7**.
    (3) **Make** suitable **assumptions** wherever necessary and **state** the **assumptions** made.
    (4) **Answers** to the **same question** must be written **together**.
    (5) **Numbers** to the **right indicate marks**.
    (6) **Draw** neat **labeled diagrams** wherever **necessary**.

Q1. **Case Study:**

Mrs. Anu Akash, HOD of Science department, devices her strategy according to the dynamic situations. She respects her team members and listens to their ideas and she always makes sure that the team members are happy and competent. She motivates the team members when their morale goes low. She changes the order of subjects as syllabus dictates. She always supports her team members and at the same time she implements her own decision with proper justification. Under her leadership, the team has won several awards and trophies.

Based on the above mentioned facts, answer the following questions:

    a) Mention the leadership style of **Mrs. Anu Akash** and explain the features of the same. **(5)**

    b) Mention the success factors of leader's strategy. **(5)**

    c) Compare the leadership style of **Mrs. Anu Akash** with the style of Mahatma Gandhi. **(5)**

    d) Explain the importance of effective team building with respect to the case study. Also state the advantages of the same. **(5)**

Q2.   a) Explain "Top-down Budgeting" with its advantages and disadvantages. **(8)** **(6)**
    b) What is project audit? Explain the life cycle phases of the same. **(6)**
    c) Explain the term "EOT" and "LOT" in the context of CPM.

Q3.   a) What is Tendering? What is post-tender negotiation? Explain **(8)**
    b) Explain the concept of Post Control mechanism in detail.
    c) Explain the term "Debentures" in detail. **(6)** **(6)**

Q4.   a) Explain the fundamentals behind matrix organization. What are the industries that prefer this organization? What are the advantages and drawbacks of the organization? Show and explain the architectural diagram of the same. **(8)**
    b) Explain the project manager's career. **(6)**
    c) Enlist and explain the reasons for the ineffective control of a project. **(6)**

Q5.   a) Explain the life-cycle of the project in detail. **(8)**
    b) Write an exhaustive note on "Learning Curve". **(6)**
    c) Distinguish between functional and project manager. **(6)**

Q6.   a) Explain the top principles and functions of management. **(8)**
    b) Write an exhaustive note on "Cash Flow". **(6)**
    c) Explain the characteristic features of the project. **(6)**

Q7.   a) Explain the different sources of finance.   **(8)**
       b) Explain the three constraints of any project.   **(6)**
       c) When does the project control can be ineffective? Explain.   **(6)**

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