The South Indian Association's
The S.I.A. College of Higher Education
Affiliated to University of Mumbai
Accredited B+ by NAAC
P-88, MIDC Residential Area Dombivli Gymkhana Road,
Near Balaji Mandir, Dombivli (East), 421203.

BCOM
Question Bank

Question bank FYBCom
Sub: Economics

Module 1:

1. Explain the meaning, scope and importance of business economics.
2. Explain the concepts: incremental concept, marginal concept, and opportunity cost concept.
3. Discuss the concept of variables, functions, equations, and graphs using an example. (demand function, equation, and graph)
4. Explain the relation between TR, MR and AR.
5. Explain how equilibrium price is determined in the market.
6. Calculate TR, MR, and AR

Price	Quantity	Total Revenue (PxQ)	Average Revenue (TR/Q)	Marginal Revenue (dTR/dQ)
5		400		
10		750		
15		1020		
20		1240		
25		1375		
30		1410		
35		1400		
40		1280		

7. Calculate TC, AC, and MC

Quantity	FC	VC	TC	AC	MC
0	70	-			
1	70	50			
2	70	65			
3	70	75			
4	70	90			
5	70	120			
6	70	170			
7	70	200			

Module 2:

1. Explain the meaning, assumptions, explanation, and exceptions of the law of demand.
2. Write a note on the determinants of demand.
3. Explain the nature of demand curve under different market structures.
4. Explain price elasticity of demand.
5. Explain income elasticity of demand.
6. Explain cross elasticity of demand.

7. Explain promotional elasticity of demand.
8. Write a note on the methods of measuring price elasticity of demand.
9. What is the meaning and importance of demand forecasting?
10. Write a note on the steps of demand forecasting.
11. Explain survey methods of demand forecasting.
12. Explain statistical methods of demand forecasting.
13. Given following demand function Qd = 200 – 0.32P, what is your forecast for Qd when P = 10, 20, and 30?
14. Given following demand function Qd = 60– 0.7P, if future price is P = Rs. 20, what is the forecast for quantity demanded?
15. Given following demand function Qd = 200 – 0.45P, what is your forecast for Qd when P = 10, 50, 60?

Module 3:

1. Explain the law of variable proportions.
2. Explain the law of returns to scale.
3. Write a note on the meaning and properties of isoquants.
4. Explain the concept of iso-cost line.
5. Discuss the concept of ridge lines.
6. How does a firm attain least cost combination of inputs?
7. Elaborate on the economies of scale.
8. Elaborate on the diseconomies of scale.
9. Explain the meaning and types of production function.

Module 4:

1. Explain any four cost concepts.
2. Discuss the break-even analysis using an example.
3. The LAC is also called an envelope curve. Justify the statement.
4. Explain the concept of learning curve.
5. Explain the relationship of average cost curves in the short-run.
6. Explain the concept of TC, TFC, and TVC using schedule and diagram.

Question bank SYBCom
Sub: Economics

Module 1:

1. What is the meaning, scope, and importance of macroeconomics?
2. Why is the study of circular flow of income important?
3. Write a note on Say's law of markets.
4. Explain circular flow of income in a two-sector, three-sector, and four-sector economy.
5. Write a note on the meaning and importance of national income accounting.
6. Write a note on the concepts of national income.
7. What are the different the methods of measuring national income?
8. Explain the meaning, features, and phases of trade cycles.
9. Write short note on: a) Green National Income Accounting
   b) Relation between NI and Economic Welfare

Module 2:

1. Explain the concept of effective demand given by Keynes. / explain the concept of aggregate demand function and aggregate supply function.
2. Write a note on the Keynesian consumption function.
3. What is the meaning of investment? Explain the types of investment and investment function.
4. Explain the concept of marginal efficiency of capital.
5. Write a note on the concept of multiplier.
6. Explain Keynes' psychological law of consumption and factors affecting marginal propensity to consume.
7. Write a short note on the paradox of thrift.
8. Explain the concept of APC, MPC, APS, MPS / write a note on the technical attributes of consumption and saving function.

Module 3:

1. Explain the IS curve and shift in IS curve.
2. Explain the LM curve and shift in LM curve.
3. Explain IS-LM equilibrium determination.
4. Explain the impact of monetary and fiscal policies on IS-LM model.
5. Write a note on Phillips curve.
6. Explain the long-run Phillips curve.
7. What do you mean by Stagflation? What are the causes of stagflation?
8. Write a note on the propositions of supply-side economics.

Module 4:

1. Write a note on the meaning and measures of money supply in India.
2. Write a note on the components, determinants and factors affecting money supply in India.
3. Write short note on : Velocity of circulation of money (with factors)
4. Explain Fisher's approach to demand for money.
5. Explain Cambridge approach to demand for money.
6. Explain Keynesian approach to demand for money.
7. Explain Friedman approach to demand for money.
8. Explain the concept of liquidity trap.
9. What is the meaning of inflation? What are the types of inflation?
10. Differentiate between demand-pull and cost-push inflation.
11. Write a note on the effects of inflation.
12. Discuss the nature of inflation in a developing economy.

Question bank TYBCom
Sub: Economics

Module 1:

1. Write a note on the New Economic Policy of 1991.
2. Explain the role of social infrastructure in education.
3. Health and family welfare are important focus areas for the government – discuss.
4. Discuss the importance of sustainable development goals in the recent scenario.
5. What are your opinions regarding Make in India.
6. Explain the Skill India initiative launched by the government.
7. Write a short note on Invest India initiative.
8. Write a short note on Skill India initiative.
9. What do mean by FDI? Explain the advantages and disadvantages of FDI.
10. Write a note on FIPB and its performance in India.
11. Explain the role of MNCs in developing countries.

Module 2:

1. Write a note on national agricultural policy 2000.
2. Write a note on agricultural price policy.
3. Explain the concept of agricultural finance and types of agricultural credit in India.
4. Write a note on non-institutional sources of agricultural credit.
5. Write a note on institutional sources of agricultural credit.
6. Explain the concept of and defects in agricultural marketing in India.
7. Write a note on agricultural marketing infrastructure.
8. Explain the role of technology in MIS in agriculture.
9. Write a note on marketing training in India.
10. What are the components of a supporting enabling environment?
11. Discuss recent developments in agricultural marketing.
12. Write a note on contract farming.

Module 3:

1. Write a note on the Competition Act, 2013.
2. Explain the disinvestment policy in India.
3. Write a note on the MSME sector and its contribution to the Indian economy.
4. Explain the meaning and causes of industrial pollution?
5. What are the effects of industrial pollution?
6. Explain measures taken to control pollution in India.
7. Explain the meaning and characteristics of service sector.
8. Write a detailed note on the role of healthcare as a service sector in India.
9. Write a detailed note on the role of tourism as a service sector in India.

Module 4:

1. Explain the progress of commercial banks after liberalization.
2. Bring out the measures of operational technology introduced in the banking system in the recent years.
3. Explain the issues and challenges in the banking sector in India.
4. What are the recent trends in insurance industry in India?
5. Write a note on IRDA.
6. Explain the structure of Indian Money Market.
7. What are the reforms in the Indian money market?
8. Write a short note on limitations of Indian money market.
9. Explain the structure of capital market in India.
10. Write a note on SEBI.
11. What are the reforms in capital market in India?

S.Y.B.COM SEM III

Subject:Computer Programming-I

UNIT I:Hardware

1.Explain the different generations of computers highlighting the improvements in them.

2. What are the different types of computer?

3. What are superComputers? What are their uses?

4. What is microcomputer? What are the reasons for its popularity? What are the types of microcomputer?

5.explain in brief about tablet computer and smartphones.

6. Explain any five characteristics of computer.

7. Explain in brief the functional units of computer.

8. Explain the function of the ALU and that of the registers within the ALU

9. Explain the different types of primary memory.

10. Explain different kinds of secondary memory available.

11. Explain about memory addressing capability of the CPU.

13. What are binary numbers? What are the rules of binary addition?

14. Explain how 1's complement and 2's complement representation of binary numbers is carried out.

15. Problem on Conversion of binary no to decimal no

16. Problem on Conversion of decimal no to binary no

UNIT 2:Software

Q. What is the relationship between software and hardware?

Q. Explain the need of software in computer system.

Q. What are the categories into which software can be divided.

Q. What is system software? What are the types of system software?

Q. Define the term operating system. Give example.

Q. What are the basic functions of an operating system?

Q. What are utility programs.

Q.What is language translator? Give three different types of language translator.

Q. What are the differences between compiler and interpreter.

Q. What is application software ?why it is needed?

Q. Give three examples of application software and their application areas.

Q. Define the term algorithm.

Q. What are the qualities of good algorithm?

Q. What is mean by efficient algo? Explain

Q. Different problems to write algorithm.

Q. What is flowchart? What are the different shapes used in flowchart.

Q. Different problem on which flowchart to be drawn.

Q. What is ecommerce? Why it is so popular now? Name few ecommerce sites.

Q. Define term MIS.

Q. Explain project management.

Q. What is sales analysis? Why is it necessary?

Q. What is the purpose of inventory control system.

Q. Define the term risk analysis. What is it used for.

UNIT 3: Introduction to C-programming

Q.Explain basic structure of C program

Q. Write note on keywords.

Q.Write note on identifiers.

Q. What are different constants in C?

Q. Explain data types used in C.

Q. Write short note on escape characters.

Q. Explain storage classes used in C

Q. What are operators in C? Explain different types of operators used in C

Q. Explain arithmetic operators.

Q. Explain relational operators.

Q. Explain logical operators.

Q. Explain '=' and '=='operators

Q. Explain printf() and scanf() function in C.

Q. Explain gets() and puts()functions in C

Q. Explain getchar() and putchar() function in C

Q. Give difference between printf() and puts()

Q. Give difference between gets() and scanf().

Q. Give output questions

Q. Program on above

Unit IV: Decision/loop statemetns

Q. Write short note on

1. if() 2. Break; 3. Continue; 4. Switch()

5. for() 6. While() 7.do..while()

Q. program on conditional statements

Q. Programs on looping statements.

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QUESTION BANK

B.SC.(IT)

The S.I.A College of Higher Education

Remedial Question Bank – SYIT SEM III

Subject: CN

Unit 1:

a. Explain the types of transmission modes for data flow.
b. Discuss the advantages and disadvantages of different network topologies.
c. What is Shannon capacity of noisy channel?
The signal-to-noise ratio is given as 36dB and the channel bandwidth is 2 MHz. Calculate theoretical channel capacity.
d. What are the different types of transmission impairments?
e. Distinguish between data rate and signal rate.
A signal is carrying data in which one data element is encoded as one signal element (r=1). If the bit rate is 100kbps, what is the average value of the baud rate if c is between 0 and 1?
f. Define constellation diagram. Explain its role in analog transmission.

a. State and explain various types of networks. What are the different ways to access the Internet?
b. What is Internet standard? Explain the maturity levels of RFC.
c. Protocol layering can be found in many aspects of our lives such as air travelling. Imagine you make a round-trip to spend some time on vacation at a resort. You need to go through some processes at your city airport before flying. You also need to go through some processes when you arrive at the resort airport. Show the protocol layering for the round trip using some layers such as baggage checking/claiming, boarding/unboarding, takeoff/landing.
d. Discuss the different quality of service characteristics for overall network performance.
e. What are the different modes in which the transmission of binary data can be accomplished? Explain each mode.
f. Draw the constellation diagram for the following cases. Find the peak amplitude value for each case and define the type of modulation (ASK, FSK, PSK, or QAM). The numbers in parentheses define the values of I and Q respectively.
   i. Two points at (2, 0) and (3, 0)
   ii. Two points at (3, 0) and (−3, 0)
   iii. Four points at (2, 2), (−2, 2), (−2, −2), and (2, −2)
   iv. Two points at (0, 2) and (0, −2)

a. Define Data Communication. Explain its various components.
b. List and explain the functions of ISO's OSI Model Layers.
c. What do you mean by Transmission line Impairments? Explain in detail.
d. Explain the following terms in relation with Data Communication
   (i) Half Duplex System.
   (ii) Full Duplex System.
e. Define Modulation. Write a short note on Amplitude Modulation.
f. Explain the following terms of Data Transmission
   (i) Parallel Transmission.
   (ii) Serial Transmission.

Unit 2:

a. Describe the goals of multiplexing. Which are the 3 multiplexing techniques?
b. Define FHSS (Frequency Hopping Spread Spectrum). Explain how it achieves bandwidth sharing.
c. Discuss the advantages and disadvantages of optical fiber.
d. Explain the two technologies of circuit switching.
e. List and explain the services provided by data link layer.
f. How does a single-bit error differ from a burst error?

a. List the different error correcting codes. Explain any two in detail with examples.
b. What are the functions of data link layer? What is the relationship between packets and frames? Explain the different methods of framing.
c. We need to use synchronous TDM and combine 20 digital sources, each of 100 Kbps. Each output slot carries 2 bits from each digital source, but one extra bit is added to each frame for synchronization. Answer the following questions:
   i. What is the size of an output frame in bits?
   ii. What is the output frame rate?
   iii. What is the duration of an output frame?
   iv. What is the output data rate?
   v. What is the efficiency of the system (ratio of useful bits to the total bits)?
d. What are the different types of transmission media? Explain each type.
e. What is virtual circuit network? What are its characteristics?
f. Explain the three phases of communication in a circuit switched network.

a. Differentiate between Frequency Division Multiplexing (FDM) and Time Division Multiplexing (TDM).
b. Write a short note on Spread Spectrum Modulation (SSM) techniques along with its Application.
c. Discuss the major classifications of transmission media.
d. What is Packet Switching? Explain its methods of implementation.
e. Define *Error* under scope of networking and explain its types.
f. Explain the following terms
   (i) Forward Error Correction (FEC).
   (ii) Automatic request for Retransmission (ARQ).

Unit 3:

a. Compare and contrast flow control and error control.
b. Explain the working of stop-and-wait protocol.
c. Discuss the concept of pure ALOHA.
d. Write note on TDMA (Time Division Multiple Access).
e. Discuss *any five* characteristics of standard Ethernet.
f. Write short note on routers.

a. Explain ALOHA system with its two versions.
b. Discuss GO BACK N ARQ protocol in detail.
c. Explain Bluetooth Layered Architecture.
d. Differentiate between satellite communication and optical communication.
e. Explain the following connecting devices in networking
   (i) Bridge.
   (ii) Gateway.
f. Explain CSMA with collision detection.

a. What is HDLC? What are the different types of frames in HDLC? Explain the different fields in HDLC frames.
b. Explain the transition phases of point-to-point protocol.
c. Discuss the addressing mechanisms of IEEE 802.11 project.
d. Explain the architecture of Bluetooth.
e. Explain the spanning tree algorithm.
f. What is Virtual LAN? How are stations grouped into different VLANs? Explain.

Unit 4:

a. List and explain the services provided by network Layer.
b. Write short note on NAT (Network Address Resolution)

c. What is fragmentation? Discuss the three fields in an IP datagram related to fragmentation.
d. How to overcome instability in distance vector routing algorithm.
e. Discuss different timers in RIP (Routing Information Protocol).
f. Differentiate between IPv4 and IPv6.

a Explain the two ways of forwarding of IP packets.
b What is dynamic host configuration protocol? Explain the DHCP message format.
c
i. Assume the shortest path in a graph from node A to node H is A → B → H. Also assume that the shortest path from node H to node N is H → G → N. What is the shortest path from node A to node N?
ii. Explain why a router using link-state routing needs to receive the whole LSDB before creating and using its forwarding table. In other words, why can't the router create its forwarding table with a partially received LSDB?
iii. Is the path-vector routing algorithm closer to the distance-vector routing algorithm or to the link-state routing algorithm? Explain.
d What is routing information protocol? Explain the RIP algorithm.
e Draw and explain the IPv6 header format.
f What are the different transition strategies from IPv4 to IPv6? Explain.

Unit 5:

a. Explain the concept CSMA/CA.
b. Explain the services provided by User Datagram Protocol (UDP).
c. Discuss the three-way handshaking in TCP (Transmission Control Protocol) for connection establishment.
d. Explain the process of transferring a mail.
e. Explain the architecture of World Wide Web (WWW).
f. Briefly explain the different timers in TCP (Transmission Control Protocol).

a. With the help of a diagram, explain the Go-Back-N protocol.
b. Explain the persistent and non-persistent connection
c. Explain the architecture of electronic mail.
d. What is DNS? How is name-address resolution done?
e. What is secure shell? Explain the components of secure shell.
f. In a network with fixed value for m > 1, we can either use the Go-Back-N or the Selective-Repeat protocol. Describe the advantage and the disadvantage of using each. What other network criteria should be considered to select either of these protocols?

The S.I.A College of Higher Education , Dombivli

Subject: Introduction to Embedded system **Class: S.Y.B.Sc.(IT)**

Semester:IV

1. What is RAID? Explain its features with it levels.
2. Draw architectural block diagram of 8051?
3. Write the short note on Program counter, Data Pointer and PSW?
4. What are SFRs? List and specify their functions?
5. Draw and explain TMOD and IE registers?
6. Add 1 to register A by using five different instructions? Explain each with reference to addressing modes.
7. Explain the Calls and Stack concept with diagram?
8. PCI bus
9. Counter/Timer in 8051
10. Explain RAID 0 and RAID 1 in details?
11. What is cache memory? Explain different levels of cache ?Why it is needed
12. Draw architectural block diagram of 8051?
13. Write the short note on SCON, TMOD and PSW?
14. What are SFRs? List and specify their functions?
15. Draw and explain IP and IE registers?
16. Explain the Calls and Stack concept with diagram?
17. Explain Timer applications in 8051
18. Explain the various purposes of embedded systems in detail with illustrative examples?
19. What is difference between Application specific Integrated circuit (ASIC) and Application specific standard product (ASSIP)?
20. What is Digital Signal Processor (DSP) ? Explain the role of DSP in embedded system?
21. What are sensors and actuators? Explain their roles in embedded system?
22. Explain the different on-board communication interfaces?
23. Compare the operation of ZigBee and Wi-fi network technologies?
24. Explain the different characteristics of embedded systems in details?
25. Explain quality attributes in embedded system development context? What is operational quality attributes?
26. Explain the nonoperational quality attributes in detail?
27. Explain the domain specific embedded systems and their importance in designing?
28. What is difference between microprocessor and microcontroller? Explain the role of microprocessor and controller in embedded environment?
29. What is difference between RISC and CISC processors?
30. Which are the components used as core of an embedded systems? Explain the merits, drawbacks in there domain where they are commonly used?
31. What is difference between standard product and application specific integrated circuit?
32. Explain the role of microprocessor and microcontroller in embedded systems design. Differentiate between microprocessor and microcontroller

33. What is processor architecture? What are the different architecture available for processor controller?
34. Explain quality attribute in the system development context. What are the different quality attribute to be considered while system designing?
35. What are operational quality attribute? Explain all
36. What are non-operational quality attribute? Explain all.
37. Analyze the Internal Project and explain Operational and Nonoperational attributes of systems.
38. Write an 8051 C program to get a byte of data from P0. If it is less than 100 send it to P1 otherwise send it to P2.
39. What is IDE ? Write short note on Keil micro vision.
40. Find the values of TMOD register in Mode 0 Timer 0. Write a program to toggle all bits of P1 continuously.
41. Explain the different technique of delay generation in embedded C. Give programming example for each.
42. Write a note on watchdog timer and its importance.
43. Draw and explain the DMA controller and its role in embedded system?
44. What is interrupt? Explain its role in embedded system designing.
45. What is multiprocessor communication? Explain the communication of 8051 microcontroller with the help of serial communication.
46. Explain the auto reload mode of operation of timer. What are other modes of operation?
47. What is the structure of IE and IP register? Draw and explain.
48. What is operating system? What are the main components of operating system? Explain it?
49. What is Kernel? How it is useful for System Development?
50. Explain the different phases of EDLC.
51. Draw and compare waterfall model and Evolutionary of EDLC.
52. Draw and explain fountain model of EDLC.
53. Draw and explain Spiral model of EDLC
54. Explain the ports and its functions in detail.
55. What is difference between RISC and CISC processor? Give an example of each.
56. What is difference between big-endian and little-endian processors?
57. Explain how important is the embedded firmware? What are different approaches available for it?
58. Compare and differentiate SRAM and RAM?
59. Implement EDLC for Internal Project and do analysis?

The S.I.A College of Higher Education

Question Bank

Subject: Imperative Programming

Subject Teacher: Shilpa Nimbre

UNIT I

- What do you mean by imperative programming?Explain different types of imperative programming.
- What is the difference between machine level language and high level language?
- List and explain five desirable program characteristics.
- What is the role of compiler and interpreter in program.
- What is mean by compilation? What is mean by interpretation? How do these two processes differ?
- What is program development life cycle?Explain its various stages.
- Explain different types of programming language.
- What is an algorithm? What are the characteristics of an algorithm.
- Explain flowchart with its symbol
- Draw a flowchart to generate numbers from 1 to 10.
- Draw a flowchart for finding factorial of a number.
- Draw a flowchart to find largest of 3 numbers
- Draw a flowchart and pseudo code of a program that doubles a number.
- Draw flowchart to find roots of quadratic equation.
- Draw flowchart to find reverse of a number
- Draw a flowchart to check whether number is palindrome.
- Describe the structure of a C program.
- What are the various data types in C? Explain them.
- Write the rules for all numeric constants in C.
- What is variable? How are they declared and used in expressions in C?
- Determine if the following identifiers are valid in C.

- 1> record l
- 2> $tax
- 3>123_456_789
- 4> address and name
- 5> file_3

- What is variable? How does an array variable differ from an ordinary variable.
- What are the classes of statements in C? Describe the composition of each.
- Explain the following with example
  - 1. Symbolic constants
  - 2. Escape sequences
- Determine if the following constants are valid.
  - 1. 27,822
  - 2. 0.8E8
  - 3. “Name:
  - 4. “1.3e-12”
  - 5. 0xBCFDAL
- Define keywords and identifiers in C language. Also differentiate between keywords and identifiers.
- What is constant?List various constants in C. Explain any two in detail with suitable example.

UNIT II

- Explain the increment and decrement operator in C with example.
- Describe two different ways to utilize the increment and decrement operators. Explain with example.
- Explain following with suitable example

  : ? , + = and % =
- Explain the following functions in C
  - sin()

- exp()
- pow()
- tolower(c)
- putchar (c)

- Explain the concept of operator precedence and associativity. What are the relative precedence and associability of the arithmetic operators?
- What do you understand from hierarchy/precedence of operators? What is hierarchy of operators in c?
- Write a C program to find the maximum of two numbers using conditional operators.
- How putchar and getchar functions are used within a C program? Explain with the help of example.
- Explain the conditional operator and assignment operator in C with example.
- What is relational expression? List all operators used with it.
- Explain the purpose and use of following operators with suitable examples
  - == and =
  - Conditional operator(? :)
- C program contains the following declarations and initial assignments

  int i=8,j=5;

  float x=0.005, y=0.001;

- Determine the value of each of the following expressions

  i. 2*(i/5) + (4*(j-3)) % (i+j-2)

  ii. (x>y) && (i>0) || (j<5)

- Describe the five arithmetic operators in C
- Explain the conditional operator in C with example.
- Write a C program to find maximum of two numbers using conditional operators
- Write a program in C to swap two numbers without using third variable
- Write a program in C to solve the following expression $F=P(1+i)^n$

- Write an interactive C program to find roots of a quadratic equation $ax2 + bx + c = 0$ and roots are given by $\frac{-b \pm \sqrt{b^2-4ac}}{2a}$
- Describe the syntax of the scanf () statement in C.
- Compare the gets and puts functions with scanf and printf statements.
- What is the purpose of control string in a scanf function? Summmarize the meaning of the most commonly used conversions characters within the control string of a scanf function.
- How putchar and getchar functions are used within a C program? Explain with the help of example.
- Explain gets and printf statements used in C programming language.
- Write a short note on scanf function.
- Explain the gets and puts functions used in C programming language.
- Write a program in C to finds the area and circumference of a circle.
- Write a program in C to find fourth roots of a number entered by the user.

UNIT III

- What are control statements? Explain any two of them.
- Describe the syntax of for statement in C. Explain with suitable example.
- What is the conditional statement in C? Describe its various syntax.
- Write the syntax of if-else statement in C. What are nested 'if' statements.
- Explain if-else statement with an example.
- Write the use of break,continue and goto statements.
- Define looping. Compare different types of looping statements.
- What is the difference between while and do-while statements in C. When to use which loop
- Write a program in C to generate the Fibonacci series (0, 1, 1, 2, 3, 5, 8……) n terms using a while loop.
- Write a C program to find the sum of natural numbers using recursive functions.

- Write a program in C to find the sum of the series $Y=1^2+2^2+3^2+4^2+\ldots n^2$ using a while loop.
- Write a program in C to find the sum of squares of digits of a number.
- Write the general syntax for function declaration and definition. Explain with example.
- Write a function fact( ) in C to find the factorial of a number and use it to generate factorial of numbers from 1 to 10.
- Explain with example various ways of calling a function in C.
- Write a short note on C library functions.
- Write a C program to check whether the entered number is Armstrong or not.
- Explain two different ways to pass argument to a function with the help of example.
- Write a function in C to swap two integer variables using call by value and call by reference.
- Explain call by value and call by reference.
- Explain the switch…case statement in C with an example.
- Explain the following with respect to function in C
    - i. Function prototype
    - ii.Formal arguments
    - Iii. Return expression
- What is a function?Explain the purpose of function prototype, function call and function definition in a C program.
- What is recursion? Write a recursive function to calculate factorial of a number.
- Explain the function with an example.

UNIT IV

- What are storage classes in C? What is their scope in C?
- Compare automatic and external variable.

- What is static variable? How it is defined and initialized in a single-file program.
- Explain the meaning of following keywords in C
    - i. Auto
    - Ii. Register
    - Iii. static
- What do you understand from storage classes? List various storage classes? Explain any two.
- What is the purpose of a static function in a multifile program? Explain with suitable example.
- What is meant by storage class of a variable?
- Write short note on global variable.
- What are preprocessor directives in C? Explain #include and #define in C.
- Write the similarities and difference between macros and function.
- Write the purpose of the most commonly used C preprocessor directives
- Write the use of #define directive. Also give suitable examples.
- What is a macro? Write a program in C to find the area of a rectangle and square using macros.
- What are preprocessors in C language? Explain #if -#else- #endif preprocessor directive with suitable example.
- What is macro? Summarize the similarities and differences between macros and functions..
- What are preprocessor directives in C? Explain #include and #define in C.
- What are two dimensional arrays in C? How can they be declared and initialized in C?
- Write a program in C to find the sun of 20 double values entered by the user.
- Write a short note on strings in C.
- Explain the following functions in C:-

    - i.) strcat( )
    - ii.) strlen( )
    - iii.) strcmp( )
- WAP to perform addition of two matrices.
- WAP to demonstrate the use of strlen,strcpy,strcmp and strcat string functions
- What is an array? How can a single dimentional array be initialized?
- Write a program in C to check whether a number is stored in an array of ten integers. If present display its position else display appropriate error message.
- Explain strlen,strcat,strcmp functions with example
- What is an array? What are the advantages of using arrays?discuss one dimentional array.
- Write a C program to find largest number out of given numbers stored in an array using a function.
- Write a program in C to arrange the ‘n’ numbers stored in the array in ascending order.
- What is a two dimensional array? How can they be declared and initialized in C?

UNIT V

- What are pointers in C? Write a program in C to add 2 float numbers using pointers.
- Write a short note on pointer arithmetic in C.
- Explain the terms "array of pointers" and "pointer to an array" in C.
- Write short note on array of pointers
- Write a C program to do addition and subtraction of two pointer variables.
- Explain
    - 1. pointer declaration
    - 2. ‘*’ and ‘&’ operators used with pointers.

- Write a c program to display the cube of ten elements of an integer array using pointers.
- Explain the term pointers with an example.
- Write a C program to perform addition of two pointer variable.
- Write a short note on pointer arithmetic.
- Define structure book containing 3 members called title, author and price. Write a C program that would assign values to the individual members and display the same.
- What is the difference between array and structure.
- Explain how union can be declared in C and for what kinds of applications are union useful?
- Explain nested structure in C with example.
- How array can be used in structure? Explain array of structure variables.
- Differentiate between structure and union.
- What is an array within the structure and array of structure?
- Explain nested structure in C with an example.

The S.I.A College of Higher Education, Dombivli

Question Bank

Subject: Microprocessor Architecture

1. What are low and high-level languages? State the advantages of assembly level language over high-level language?
2. List and explain with examples, the four categories of 8085 instructions the manipulate data?
3. List and explain the four operations commonly performed by the MPU? How many locations can be addressed by a microprocessor with 14 address lines?
4. What is the function of accumulator? While executing program, when MPU completes fetching of the machine code located at the memory address 6057H, what are the contents of program counter?
5. What are tristate devices and why are they essential in bus-oriented system?
6. Draw and explain 8085 pin out diagram according to classification in six groups: a) address bus b) data bus c) control and status signals d) Power supply and frequency signals e) externally initiated signals and f) serial I/O ports.
7. Explain the difference between the machine level language and assembly level language of 8085 microprocessor?
8. Explain the different four types of instructions in 8085? Explain all with suitable examples.
9. What is bus? Specify the functions of the address bus and the direction of the information flow on the address bus?
10. What is flag? Why the stack pointer and program are counter 16-bit register?
11. How many address lines are used in to identify I/O port in the peripheral I/O and memory mapped I/O methods? Explain in brief.
12. Explain tri-state devices? Draw and explain the 4to16 decoder that goes low if the input to the decoder is as shown in fig.3.29
13. Draw the table of 8085 Machine cycle status and control signal, Explain how control signals are generated from I/M, S0 & S1?
14. Draw and explain Data Flow diagram from memory to MPU?
15. Draw timing transfer diagram of Byte from memory to MPU, Explain in brief?
16. Draw and explain Flag register in brief? Also, explain how flags are modified during instruction execution with examples.
17. Explain the timing diagram of memory write cycle of de-multiplexing of address and data bus?
18. Explain all signals involved in diagram.
19. Draw and label 8085 architectural block diagram according to classification in six groups: a) address bus b) data bus c) control and status signals d) Power supply and frequency signals e) externally initiated signals and f) serial I/O ports.
20. Explain externally initiated signals including interrupts in 8085 in brief?
21. Explain the generation of memory and I/O control signals with diagram?
22. Draw and explain timing diagram for execution of the instruction MVI A, 32H?

23. Explain the timing diagram of memory read cycle of de-multiplexing of address and data bus?
24. Explain all signals involved in diagram.
25. Write a note on Address decoding mechanism used in 8085. Explain the concept with appropriate example.
26. Specify the register contents and the flag status as the following instructions are executed,

Initial Contents :	A	B	S	Z	CY
	00	FF	0	1	0

```
MVI A,F2H

MVI B,7AH

ADD B

OUT PORT0

HLT
```

27. What operations can be performed using the instruction SUB A? Specify the status of Z and CY with example.
28. The following instructions subtract two unsigned numbers. Specify the contents of register A and the status of the S and CY flags. Explain the significance of the sign flag if it is set.

```
MVI A,F8H

SUI 69H
```

29. What operations can be performed by using instruction ORA A? Specify the status of Z and CY flag with program example.
30. Write a note on data transfer and arithmetic instructions in 8085?
31. The following instructions subtract two unsigned numbers. Specify the contents of register A and the status of the S and CY flags. Explain the significance of the sign flag if it is set.

```
MVI A,F8H
SUI 69H
```

32. What operations can be performed by using instruction XRA A? Specify the status of Z and CY flag with program example.
33. What are the different types of Computer Languages?
34. Differentiate between ROM & EPROM.
35. What are types of interfacing in 8085 processor?
36. List & Explain Flag Register.
37. Explain with block diagram temperature controlled Microprocessor System.
38. What are the applications of Microprocessor?
39. Write a Short Notes on Memory mapped I/O.
40. Explain how mechanical switch works.
41. What is LDA & STA instruction?

42. What are the Classification of instruction based on Byte Length?
43. Explain with example Immediate Addressing mode.
44. What are Logical operation in Assembly Language? Explain.
45. How troubleshooting I/O interfacing circuits works.
46. Explain with example Mnemonics.
47. What is Program Counter (PC)?
48. What is Dynamic Debugging?
49. Write Short notes on Stacks and Subroutine.
50. What is Advanced Subroutine? Explain.
51. How BCD to Seven Segment Led code conversion works? Explain.
52. Write a short notes on LHLD & XCHG instruction.
53. List & Explain Microprocessor based software development system.
54. Explain Assembler.
55. What is Loader?
56. What are types of interrupts in 8085?
57. List and explain Special Pentium Register.
58. What are different Pentium register?
59. Compare between Core i3 & i5.
60. What is CPUID?
61. Explain CMPXCHG8B.
62. What are the features of Special Pentium PRO?

TYIT(Sem-V)
SOFTWARE PROJECT MANAGEMENT
2019

PPT

Ch01_Introduction_to_SPM.ppt
Ch02_project_evaluation.ppt
Ch03_Step_Wise.ppt
Ch05_Software_effort_estimation.ppt
Ch06_Activity_planning.ppt
Ch07_risk_management.ppt
Ch08_Resource_allocation.ppt
Ch09_Monitoring_and_control.ppt
Ch10_Managing_contracts.ppt
Ch11_Managing_people.ppt
Ch12_Working_in_teams.ppt
Ch13_1_product_quality.ppt
Ch13_2_Software_Process_Quality.ppt
Ch14_project_closeout.ppt

Question Bank

UNIT I

INTRODUCTION TO SOFTWARE PROJECT MANAGEMENT

1. What is software project management?
2. What is a project?
3. Define process.
4. List the characteristics of software projects.
5. What is contract management?
6. Difference between contract management and technical project management.
7. What is the difference between feasibility study and planning?
8. How plans, methods and methodologies differ from each other?
9. What are the types of designs in software project?
10. What are the three successive process of software project management?
11. What are the categories of software projects?
12. What are the activities of project management?
13. What is activity plan?
14. What are the elements of product descriptions?
15. What do you mean by project breakdown structure?
16. What are the steps involved in identification of project scope and objectives?

17. Explain the various activities covered by software project management.
18. Give an outline of step wise planning activities for a project with neat diagram.
19. Diagrammatically explain the ISO 12207 SDLC activities.
20 List the Outline of stepwise project planning.
21. For each stage of a typical IS development project list the type of personnel who are likely to be involved.
22. Identify the data that you would collect to ensure that during execution of project things are going according to plan

UNIT II

PROJECT EVALUATION

1. What is strategic assessment?
2. Difference between strategic assessment and technical assessment.
3. How to identify and estimate the cost of project?
4. What is cash flow?
5. How will you find the present value of future cash flow?
6. Write short notes on cash flow forecasting life cycle?
7. What is payback period?
8. What is ROI? How it is calculated?
9. Calculate the ROI for a software project development, where the net profit is 60,000 and the total investment is 300,000.
10. How to calculate the net present value for a software project?
11. Define risk profile analysis.
12. What are the different types of cost related to project development?
13. How are risks identified?
14. What is IRR? How is calculated?
15. What are the advantages of using IRR method?
16. What is meant by project portfolio?
17. How are decision trees helpful in risk handling?
18. Describe how cost- benefit evaluation techniques can be used to choose the best among competing project proposal.
19. Discus the typical product life cycle cash flows in project development.
20. Explain how project can be evaluated against strategic, technical and economic criteria.
21. What is risk management? How the risks are evaluated in software projects?
22. Explain in detail about the Amanda's decision tree.
23. Discuss cash flow forecasting.
24. What do you mean by cost benefit analysis? Explain the different categories of cost in detail.

UNIT III
ACTIVITY PLANNING

1. List the objectives of planning?
2. What are the advantages of project scheduling?
3. Define activity.
4. What is Activity –on- arrow (AOA) and Activity-on-node (AON)?
5. What are the different approaches used in identifying activities?
6. Define a product breakdown structure.
7. What is a hybrid approach of project scheduling?
8. What is SSADM?
9. What is forward pass?
10. Difference between forward pass and backward pass.
11. Write short notes on Hammock activities.
12. Why a network should not contain dangles?
13. List the types of activity float?
14. How to shorten the project duration?
15. What is Risk management?
16. How are risk classified?
17. List the factors involved in risk planning.
18. What are steps involved in planning for risk?
19. Define a brainstorming technique.
20. Write short notes on Hazards identification.
21. Explain the objectives of activity planning in detail.
22. Explain the different approaches of project activities.
23. What is project schedule? Explain the stages of project schedules.
24. Explain with an example how critical path can be identified in precedence networks.
25. Discus the network model represented by the CPM network.
26. How to formulate a network model in projects?
27. Explain the categories of risk framework.
28. Briefly explain the risk planning in project development.
29. Explain risk planning and control in detail.
30. Define hazard. How are hazards identified and analyzed?
31. Describe with an example how the effect of risk on project schedule is evaluated using PERT.

UNIT IV
MONITORING AND CONTROL

1. What are the different ways of collecting data?
2. What are the different categories of reporting?
3. Define a checkpoint.
4. What are the techniques used in visualizing progress.
5. Write any two advantages of function point analysis.
6. Write short notes on cost monitoring?
7. List the change control procedures?
8. What is earned value?
9. What is monitor earned value?
10. List the methods for assigning earned value in earned value anaylsis.
11. List the various prioritizing levels to monitor the project?
12. What are the roles of configuration librarian's?
13. What are the supply processes in managing contract?
14. What are the different types of contracts?
15. List the various typical terms of a contract?
16. Write short notes on contract management?
17. Define change control.
18. Explain in detail about creating the framework for monitoring & control.
19. What are the different types of visualizing progress explain in detail?
20. Explain how to get back the project to target.
21 Assessing the state of project.
22. Controlling changes to a project requirement.
23. Discus the change control procedures in detail.
24 Explain the managing contract under ISO 12207 approach.
25. Explain the different stages in contract placement.
26.Explain the earned value analysis methods.

UNIT V
MANAGING PEOPLE AND ORGANIZING TEAMS

1. Define organizational behaviour.
2. List the various motivation theories.
3. What is motivation under the Taylor's model?
4. Mention the two factors of Herzberg's theory.
5. Write down the stages of team formation model.

6. What are the methods used to improve motivation?
7. Define job enlargement and job enrichment.
8. Mention the different categories of decisions.
9. How are leadership style classified?
10. How to work in a group?
11. Write short notes on leadership?
12. Define organization.
13. Define stress.
14. Give the difference between personal and organizational stress.
15. What are the responsibilities to make safety?
16. How is stress caused?
17. Explain the Oldham-hackman job characteristic model.
18. Explain in detail about decision making.
19. Explain how new staff can be selected and inducted into a project.
20. Explain to improve group performance.
21. List the factors that are involved in making a team. Explain the characteristics.
22. Discus in detail about the organizational structures.
23. Define motivation. Explain the theories of motivation.
24. Explain the methods to increase staff motivation.
25. Write a note on leadership styles.
26. Write notes on stress handled in development process.
27. Give a brief note on health and safety issues.