

# Computer Architecture\_CA2

Computer Architecture (EC 502), 1st Internal Examination for CA2, 2021  
(Questions are based on C01)

\* Required

1. 1. In the toggle mode a JK flip-flop has \*

*Mark only one oval.*

- J = 1, K = 0.
- J = 0, K = 0.
- J = 1, K = 1.
- J = 0, K = 1

2. 2. A latch is an example of a \*

*Mark only one oval.*

- Monostable multivibrator
- Astable multivibrator
- Bistable multivibrator
- 555 timer

3. 3. 2's Complement of 10101011 is

*Mark only one oval.*

- 00111100
- 10101100
- 01010101
- 10101011

4. 4. The main equation for a D flip flop is

*Mark only one oval.*

Q=0

Q=1

Q=D'

Q=D

5. 5. Counter is a

*Mark only one oval.*

both combinational circuit & sequential circuit.

sequential circuit.

combinational circuit.

none of the answers

6. 6. The set of which logic gates is designated as universal gate? \*

*Mark only one oval.*

NOR , NAND.

XNOR, NOR, NAND.

NOT, OR , AND.

None of these

7. 7. The fast logic family is

*Mark only one oval.*

- DTL
- TTL
- ECL
- CMOS

8. 8. In K-map simplification, a group of four adjacent 1s leads to a term with

*Mark only one oval.*

- one literal less than the total number of variables
- four literals less than the total number of variables
- three literals less than the total number of variables
- two literals less than the total number of variables

9. 9. What is the minimum number of NAND gates required to realize an X-OR gate?

*Mark only one oval.*

- 3
- 5
- 4
- 6

10. 10. A J-K flip-flop with  $J = 1$  and  $K = 1$  has a 20 kHz clock input. The Q output is \_\_\_\_\_

*Mark only one oval.*

- Constantly LOW
- Constantly HIGH
- A 20 kHz square wave
- A 10 kHz square wave

11. 11. How many different states does a 3-bit asynchronous down counter have?

*Mark only one oval.*

- 2
- 4
- 6
- 8

12. 12. A ripple counter's speed is limited by the propagation delay of \_\_\_\_\_

*Mark only one oval.*

- Each flip-flop
- All flip-flops and gates
- The flip-flops only with gates
- Only circuit gates

13. 13. The minimum number of flip-flops that can be used to construct a modulus-5 counter is \_\_\_\_\_

*Mark only one oval.*

- 3
- 8
- 5
- 10

14. 14. A shift register that will accept a parallel input or a bidirectional serial load and internal shift features is called as?

*Mark only one oval.*

- Tristate
- End around
- Universal
- Conversion

15. 15. The group of bits 11001 is serially shifted (right-most bit first) into a 5-bit parallel output shift register with an initial state 01110. After three clock pulses, the register contains \_\_\_\_\_

*Mark only one oval.*

- 01110
- 00001
- 00101
- 00110

# Google Forms

**SILIGURI INSTITUTE OF TECHNOLOGY**  
**Department of Business Administration**  
**1<sup>st</sup> INTERNAL EXAMINATION, 2022**  
**MBA 4<sup>th</sup> Semester**

PAPER NAME: **Manpower Planning, Recruitment & Selection**  
FULL MARKS: **30**

PAPER CODE: **HR401**  
TIME: **1Hr**

**Group A**

**1. Answer all questions (CO1)**

**5\*1=5**

i) How often HR planning process is implemented within an organization?

- |                 |              |
|-----------------|--------------|
| 1. biannually   | 3. annually  |
| 2. continuously | 4. quarterly |

ii) Which activities are not associated with human resource planning?

- |                     |                        |
|---------------------|------------------------|
| 1. Forward planning | 3. Scenario planning   |
| 2. Time keeping     | 4. Succession planning |

iii) Which of the following is not involved in manpower planning?

- |                             |                        |
|-----------------------------|------------------------|
| 1. Analysis of requirements | 3. Intuitive judgement |
| 2. Forecast                 | 4. Course of action    |

iv) Environmental uncertainties is one of the factors that affects

- |        |         |
|--------|---------|
| 1. HRM | 3. SHRM |
| 2. HRP | 4. HRD  |

v) \_\_\_\_\_ is the process of estimating the quantity and quality of people required to meet future needs of the organisation.

- |                              |                       |
|------------------------------|-----------------------|
| 1. Demand forecasting        | 3. Supply forecasting |
| 2. Environmental forecasting | 4. None of the above  |

**Group B**

**Answer any two questions**

**2\*5=10**

2. Analyze the Work Study technique (CO2)
3. Explain the process of Job Analysis. (CO3)
4. Explain the way organizations predict the internal supply of human resources. (CO2)
5. Differentiate between Job Description and Job specification. (CO3)

**Group C**

**Answer any one questions**

**1\*15=15**

7. Discuss in brief the process of Human Resource Planning. (CO1)
8. Explain the different techniques of Job Evaluation. (CO3)

**SILIGURI INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF BUSINESS ADMINISTRATION (MBA)**  
**CA 3 1<sup>ST</sup> INTERNAL EXAMINATION, EVEN SEMESTER 2022**  
**MBA 2<sup>ND</sup> Semester 2022**

PAPER NAME: **OPERATIONS MANAGEMENT**  
 FULL MARKS: **30**

PAPER CODE: **MB 204**  
 TIME: **1 Hour**

**GROUP A: ANSWER ALL THE QUESTIONS (1 x 5=5)**

- 1 (i) Layout of a hospital where a patient receives a number of medical services is (CO1)  
 (a) Product Layout (b) Process Layout  
 (c) Fixed Position Layout (d) Group Technology Layout
- (ii) Main objective of Production Scheduling is (CO1)  
 (a) To meet due dates (b) To measure deviations from planning  
 (c) To estimate correct requirements (d) none of these
- (iii) Expected activity duration calculation in PERT method follows (CO1)  
 (a)  $\alpha$  (alpha) distribution (b)  $\beta$  (Beta) distribution  
 (c) Normal distribution (d) Poisson distribution
- (iv) Johnson's Rule is based on which of the following Priority Sequencing Rule (CO1)  
 (a) EDD rule (b) Least Slack Rule  
 (c) SPT rule (d) Critical Ratio rule
- (v) Which of the following is the correct ascending order of flexibility in production system? (CO1)  
 (a) Mass, Assembly line, Batch, Process, Job shop (b) Batch, Jobshop, Process, Mass, Assembly line  
 (c) Job shop, Batch, Assembly Line, Mass, Process (d) Jobshop, Process, Mass, Batch, Assembly line

**GROUP B: Attempt Any TWO of the following (2 x 5=10)**

2. Real Estate Company has to decide on the location of its new project. It has narrowed down the choice of new project to three locations A, B, C and data in respect of which are given below: (CO3)

Particulars	Site A	Site B	Site C
Wages & Salary (Rs)	20000	20000	20000
Power & Water Supply expenses (Rs)	20000	30000	25000
Raw materials & Other Supplies (Rs)	80000	75000	60000
Total Initial Investment (Rs)	200000	300000	250000
Distribution cost (Rs)	50000	40000	60000
Expected Sales per year(Rs)	225000	250000	225000

Use suitable criterion and advise the company on the best choice.

3. What are the concepts of 'Horizontal' & 'Vertical Loading'? How does Critical ratio (CR) value help to understand whether the Project is ahead/behind/on the schedule? (CO1)
4. Differentiate between: (a) PERT & CPM tools of Networking; (b) Line Layout & Functional Layout (CO2)

**GROUP C: Attempt Any ONE of the following (15)**

5. Apply Johnson's rule to find the optimal sequence for processing following seven jobs and calculate the total span & idle time for jobs. (CO3)

Job	A	B	C	D	E	F	G
M	9	5	8	3	4	1	7
N	2	4	10	5	6	11	6

6. Construct the Project Network for a Real Estate Construction firm in Gurgaon, Haryana based on the following data (CO3)

Activity	A	B	C	D	E	F	G	H	I	J	K
Predecessor	-	-	-	A	A	D	B	C	C	E,F,G	H
Optimistic time	2	4	5	3	3	2	3	1	2	6	2



Most likely time	5	19	11	9	6	5	6	4	5	12	5
Pessimistic time	8	28	17	27	15	14	15	7	14	30	8

Section 1 of 3

## Question\_MM302 (Digital & Social Media Marketing)\_CA2\_Odd Sem 21 (Marketing)

Form description

Email \*

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Name of the Student \*

1. AJAY KUMAR PRASAD
2. KUSHAL DAM (Minor)
3. SUROJIT PAUL
4. RUPJIT DUTTA (Minor)

MAKAUT Roll No \*

1. 11900920001
2. 11900920002
3. 11900920003
4. 11900920004
5. 11900920005
6. 11900920006
7. 11900920007
8. 11900920008

Date of 1st Internal test on MM 302 (DD.MM.YY) \*

Short-answer text

After section 1 [Continue to next section](#)

Section 2 of 3

## Group A (Attempt All Questions)

Marks Allotted: 20 x 1 = 20

Which of the following would be leveraging both social network and traditional marketing? \*

- a. Handing out print advertisements with a coupon for a store
- b. A print advertisement in a magazine which drives people to a website where there is a free trial offer
- c. Posting an advertisement on a message board

- A. radio
- B. TV
- C. billboard
- D. All of the above

What is not true about digital marketing? \*

- A. Digital marketing is any form of marketing products or services that involves electronic devices.
- B. Digital marketing can be done online
- C. Digital marketing cannot be done online
- D. Digital marketing is often referred to as online marketing, internet marketing or web marketing.

The largest social media platform in China is \*

Option 1



Option 2



Option 3

Section 3 of 3

## Group B (Attempt All Questions)

Marks: 5 x 2 = 10

Earned Media means \*

- Sponsored Ads in different digital channels like Search Engines, Websites, Facebook, Twitter, YouTube, Lin...
- It is basically are Official Website of a company or Mobile Apps of a Company or Community/Blogs or diff...
- It is organic but Unpaid like - Publicity through recommendations, Celebrity endorsement or Social Media e...
- None of the above

Earned Media means \*

- Sponsored Ads in different digital channels like Search Engines, Websites, Facebook, Twitter, YouTube, Lin...
- It is basically are Official Website of a company or Mobile Apps of a Company or Community/Blogs or diff...
- It is organic but Unpaid like - Publicity through recommendations, Celebrity endorsement or Social Media e...
- None of the above

\_\_\_\_\_ holds very much important for the success of a page on the platform. With the help of the proper \_\_\_\_\_ methods, your visitors will be able to look at your page in a better light for sure. \*

- Navigation
- Promotion
- Repetition
- None

Section 1 of 3

## MB 301\_QP 1st Internal\_CA 2

Entrepreneurship & Project Management MB 301

### Email \*

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### MAKAUT Roll No & Name of Student \*

1. 11900920001 AJAY KUMAR PRASAD
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4. 11900920004 RUPJIT DUTTA
5. 11900920005 SIMRAN CHOUDHURY

### Date of (CA2) Internal Test I (DD.MM.YY)

Short-answer text

After section 1 Continue to next section

Section 2 of 3

## GROUP A (Attempt All Questions)

Marks 15 x 1 = 15

### Innovation is of Following types \*

- 4
- 3
- 2

### Which from the following represents the correct project cycle? \*

- (A) Planning→Initiating→Executing→Closing
- (B) Planning→Executing→Initiating→Closing
- (C) Initiating→Planning→Executing→Closing
- (D) Initiating→Executing→Planning→Closing

### Which of the following statement(s) is/are true about a Project? I. It brings change; II. It has \*

- (A) I only
- (B) II only
- (C) I and II only
- (D) I, II, and III

### Which of these is not one of the constraints of a project? \*

(D) Closing

After section 2 Continue to next section ▾

Section 3 of 3

## GROUP B (Attempt All Questions)

MARKS ALLOTTED:  $3 \times 2 + 3 \times 3 = 15$

Which is not the pillars of innovation \*

- competency
- strategy
- management.
- all the bove

(C) Tracking project expenditure

(D) All of the above

Which of the following does NOT generate changes to the Project documents \*

- A. Define Activities
- B. Sequence Activities
- C. Estimate Activity Resources
- D. Estimate Activity Durations

⋮

The scope of the work is defined in which phase of the project management? \*

- (A) Initiating
- (B) Planning
- (C) Executing



**Siliguri Institute of Technology**  
**Department of Computer Science & Engineering/Information Technology**  
**6<sup>th</sup> Semester**  
**Ist Internal Examination-2022**  
**Computer Networks**  
**PCC-CS602**

**Time: 1 Hour**

**Full Marks: 30**

**Part A**

1. **Answer any five questions.** 5X1=5
- i. Total no. of links provided in Mesh topology to connect N devices are a) N b)  $N/2$  c)  $N*(N-1)/2$  d) none of the mentioned.
  - ii. Which one of the following is correct? In TCP/IP a) TCP & IP are protocols b) Conceptual Model c) both a & b d) none of the mentioned.
  - iii. OSI model has a) 10 layers b) 8 layers c) 5 layers d) none of the mentioned.
  - iv. This is not an application layer protocol a) HTTP b) SMTP c) FTP d) TCP.
  - v. MAC address is a) 32 bits b) 128 bits c) 48 bits d) all of the mentioned.
  - vi. Switch is a) Network layer b) Data link layer c) Transport layer d) none of the mentioned.
  - vii. An IP address can have a) 128bits b) 32 bits c) 32 bits & 128 bits d) none of the mentioned.
  - viii. Which of these is not applicable for IP protocol? a) connectionless b) offer reliable service c) offer unreliable service d) None of the mentioned.
  - ix. Covert in binary 201.125.97.105 a) 11001001.01111101.01100001.01101001  
b) 00000111.10101010.11111111.01011101 c) 10000111. 10101010. 01111101. 01100100 d) none of these.
  - x. To deliver a message to the correct application program running on a host, the \_\_\_\_\_ address must be consulted a) IP b) MAC c) Port d) None of the mentioned.

**Part B**

2. **Answer any two questions.** 2X5=10
- i. What is computer network? What are its advantages? Define protocol and discuss its components.
  - ii. What is topology? How many topologies are there? What is peer to peer process? Discuss mesh and star topology.
  - iii. What should be the size of window in Go-Back -N ARQ system? If the size of the window is more than the prescribed one, what will be the effect in frame transmission?
  - iv. Compare a) IP Address, MAC address and Port Address b) Stop & Wait ARQ and Go Back -N ARQ.
  - v. What is Classful IP Addressing? Give the range of reserved IP address space in IPV4 addressing. Explain the term subnet mask and default subnet mask.

**Part C**

3. **Answer any one questions.** 1X15=15
- i. Discuss in brief the functions all layers in OSI model.
  - ii. a) If the message is 110101 and the predefined divisor is 101, find the CRC. Also check the message at the receiving end for error.  
b) If the data stream is 10101111 11001001, find the checksum. Also check for error at the receiver end.
  - iii. Suppose the data is 10100111. Using Hamming code find the code word to be transmitted to the receiver. If error has occurred at the 4<sup>th</sup> bit position from the left, find the position of error using Hamming code.
  - iv. Find the no. of subnets, the subnet addresses, total no. of hosts per subnet, valid IP address range in each subnet, broadcast addresses in each subnet for the following IP address:  
192.168.100.35/28.



**SILIGURI INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**CS – 603**

**OPERATING SYSTEM**

Time: 1 hour 30 minutes

Full Marks: 50

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**GROUP – A**  
**(Multiple Choice Type Questions)**

Choose the correct alternatives for *all ten* of the following: -

**10 × 1 = 10**

- i) Banker's Algorithm for resource allocation deals with
  - a) Deadlock Prevention,
  - b) Deadlock Avoidance,
  - c) Deadlock Recovery,
  - d) Mutual Exclusion.
  
- ii) Address generated by CPU is generally referred to as
  - a) Logical,
  - b) Relational,
  - c) Virtual,
  - d) Physical.
  
- iii) Paging suffers from
  - a) Internal Fragmentation,
  - b) External Fragmentation,
  - c) Both (a) & (b),
  - d) None of these.
  
- iv) Which of the following algorithm generally suffers from Belady's Anomaly
  - a) Optimal,
  - b) FIFO,
  - c) LRU,
  - d) All of these.
  
- v) Swap Space generally resides on
  - a) Main Memory,
  - b) Files,
  - c) Programs,
  - d) Disk.

**(1)**

[ Turn Over

vi) Disk I/O is generally done in terms of

- a) Sectors,
- b) Bytes,
- c) Blocks,
- d) Bits.

vii) Translation look aside Buffer is a kind of

- a) Interrupt,
- b) Cache,
- c) Virtual Memory,
- d) I/O Device.

viii) Virtual Memory concept is supported by

- a) Demand Paging,
- b) Simple Segmentation,
- c) Any Dynamic Memory Allocation,
- d) Page Segmentation.

ix) Page Fault occurs when

- a) The Page is corrupted by Application Software,
- b) The Page is not in Main Memory,
- c) The page is in Main Memory,
- d) One tries to divide a number by 0.

x) The time to move the disk arm to the desire cylinder in hard disk is known as

- a) Rotational Latency,
- b) Seek Time,
- c) Positional Time,
- d) Disk Time.

**GROUP - B**  
**(Short Answer Type Questions)**

Answer *all* of the following **5 × 2 = 10**

2. a) What is Paging? **2 + 3 = 5**  
 b) Differentiate between Internal and External fragmentations.

3. a) What is deadlock? **2 + 3 = 5**  
 b) What are the necessary conditions for deadlock to occur?

**(2)**

**GROUP - C**  
**(Long Answer Type Questions)**

Answer *all* of the following **15 × 2 = 30**

4. Consider a system with five processes P<sub>0</sub> through P<sub>4</sub> and have three resource types A, B, C. Find out the number of instances of each resources type and retrieve the safe sequence.

	MAX			NEED			AVAILABLE		
	A	B	C	A	B	C	A	B	C
<b>P<sub>0</sub></b>	7	5	3	7	4	3	2	3	0
<b>P<sub>1</sub></b>	3	2	2	0	2	0			
<b>P<sub>2</sub></b>	9	0	2	6	0	0			
<b>P<sub>3</sub></b>	2	2	2	0	1	1			
<b>P<sub>4</sub></b>	4	3	3	4	3	1			

**15**

5. Draw the disk read/write head movement diagram for FCFS, SSTF, SCAN, C-SCAN and LOOK, for the track requests as - 25, 75, 35, 100, 95, 175, 78, 125, 90, 35(Consider Current Head Position at the beginning is 50).

**3 + 3 + 3 + 3 + 3 = 15**

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**(3)**



**SILIGURI INSTITUTE OF TECHNOLOGY**  
**Department of CSE & IT**  
**1<sup>st</sup>INTERNAL EXAMINATION, 2023**  
**4<sup>th</sup> Semester**

PAPER NAME: Biology

Paper Code: BSC - 401

FULL MARKS: 25

TIME: 60 Minutes

**Group- A - CO1, CO2 & CO3**

**(Answer any five Questions)**

**Q1 . Short Answer type Questions:**

**Marks (5x1=5)**

1. What do you mean by biomimicry?
2. Define the term unicellular organism.
3. What is species?
4. Define the term Gene.
5. What do you mean by alleles?
6. What is genetic mapping?
7. What is genotype?

**Group – B - CO1, CO2 & CO3**

**(Answer any four Questions)**

**Q2. Long Answer type Questions:**

**Marks (5x4 = 20)**

1. Describe about two different engineering designs inspired from examples in biology.
2. Write the difference between prokaryotic and eukaryotic organisms.
3. Compare between the Aminotelic, Uricotelic and Ureotelic organisms.
4. What is Model organism in biology? Discuss with one suitable example.
5. Explain Mendel's laws of inheritance.
6. Write a short note about different types of genetic disorders.

**SILIGURI INSTITUTE OF TECHNOLOGY**  
**Department of CSE & IT**  
**1<sup>st</sup>INTERNAL EXAMINATION, 2023**  
**4<sup>th</sup> Semester**

PAPER NAME: Biology

Paper Code: BSC - 401

FULL MARKS: 25

TIME: 60 Minutes

**Group A - CO1, CO2 & CO3**

**(Answer any five Questions)**

**Q1 . Short Answer type Questions:**

**Marks (5x1=5)**

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2. Define the term unicellular organism.
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**Group – B - CO1, CO2 & CO3**

**(Answer any four Questions)**

**Q2. Long Answer type Questions:**

**Marks (5x4 = 20)**

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