

Comprehension:

Study the following table and answer the questions 01 to 05.

The following table shows the constitution of students' population on the basis of certain demographic variables in four colleges:

College	Total no. of students	Rural : Urban	Male : Female	Percentage of Post-graduate within females
A	400	3:7	7:3	40%
B	500	1:4	4:1	60%
C	700	3:4	4:3	50%
D	600	1:1	2:1	30%

SubQuestion No : 2

Q.2 Total urban population of the students in colleges A and B is how much percent of total population of these two colleges?

1. 13.24%
2. 24.44%
3. 75.56%
4. 88.80%

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046293**

Option 1 ID : **48180424501**

Option 2 ID : **48180424502**

Option 3 ID : **48180424503**

Option 4 ID : **48180424504**

Status : **Answered**

Chosen Option : **1**

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C	700	3:4	4:3	50%
D	600	1:1	2:1	30%

SubQuestion No : 3

Q.3 The number of female students in college C is how much percent less than the number of male students in this college?

1. 1%
2. 15%
3. 25%
4. 75%

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046297**

Option 1 ID : **48180424517**

Option 2 ID : **48180424518**

Option 3 ID : **48180424519**

Option 4 ID : **48180424520**

Status : **Answered**

Chosen Option : **3**

Comprehension:

Study the following table and answer the questions 01 to 05.

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B	500	1:4	4:1	60%
C	700	3:4	4:3	50%
D	600	1:1	2:1	30%

SubQuestion No : 4

Q.4 How many female students are post graduate in total students of all the colleges?

1. 720
2. 318
3. 2200
4. 1100

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046296**

Option 1 ID : **48180424513**

Option 2 ID : **48180424514**

Option 3 ID : **48180424515**

Option 4 ID : **48180424516**

Status : **Answered**

Chosen Option : **2**

Comprehension:

Study the following table and answer the questions 01 to 05.

The following table shows the constitution of students' population on the basis of certain demographic variables in four colleges:

College	Total no. of students	Rural : Urban	Male : Female	Percentage of Post-graduate within females
A	400	3:7	7:3	40%
B	500	1:4	4:1	60%
C	700	3:4	4:3	50%
D	600	1:1	2:1	30%

SubQuestion No : 5

Q.5 What is the total number of urban students in all the four colleges?

1. 1380

2. 1680

3. 1100

4. 820

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046295**

Option 1 ID : **48180424509**

Option 2 ID : **48180424510**

Option 3 ID : **48180424511**

Option 4 ID : **48180424512**

Status : **Answered**

Chosen Option : **1**

Q.6 Arrange the following methods of data collection in terms of the personal involvement of researcher from high to low.

- A. Structured interview
- B. Unstructured interview
- C. Questionnaire
- D. Participant observation
- E. Observation

Choose the **correct** answer from the options given below:

- 1. A, B, C, D, E
- 2. D, E, B, A, C
- 3. E, A, B, C, D
- 4. C, B, A, D, E

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046305**

Option 1 ID : **48180424549**

Option 2 ID : **48180424550**

Option 3 ID : **48180424551**

Option 4 ID : **48180424552**

Status : **Answered**

Chosen Option : **3**

Q.7 Arrange the following events in proper sequence with respect to land degradation cycle arising from opencast mining, mineral dressing and other related activities.

- A. Loss of greenery
- B. Drying up of land
- C. Land degradation
- D. Decrease in irrigation potential
- E. Desertification

Choose the **correct** answer from the options given below:

- 1. A, B, C, D, E
- 2. A, D, B, C, E
- 3. A, C, B, D, E
- 4. A, B, D, C, E

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046330**

Option 1 ID : **48180424649**

Option 2 ID : **48180424650**

Option 3 ID : **48180424651**

Option 4 ID : **48180424652**

Status : **Answered**

Chosen Option : **1**

Q.8 Match the LIST-I with LIST-II

LIST-I Scheme		LIST-II Agenda	
A.	PRAGATI	I.	For faculty development and research upgradation
B.	SAKSHAM	II.	Fellowship for specially-abled students
C.	QIP	III.	Improvement of laboratories and infrastructure
D.	MODROB	IV.	Fellowship for girl students in technical Education

Choose the **correct** answer from the options given below:

1. A-I, B-III, C-IV, D-II
2. A-IV, B-II, C-I, D-III
3. A-II, B-I, C-III, D-IV
4. A-III, B-IV, C-II, D-I

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046336**

Option 1 ID : **48180424673**

Option 2 ID : **48180424674**

Option 3 ID : **48180424675**

Option 4 ID : **48180424676**

Status : **Answered**

Chosen Option : **2**

Q.9 Match the LIST-I with LIST-II

LIST-I Forms of message style		LIST-II Dialogue, examples	
A.	Threat	I.	I think you are great, would you clean the apartment
B.	Altruism	II.	I will make your favourite dinner if you clean the apartment
C.	Promise	III.	If you will not clean the apartment I am going to be mad
D.	Linking	IV.	For my sake clean the apartment, will you?

Choose the **correct** answer from the options given below:

1. A-III, B-IV, C-II, D-I
2. A-III, B-II, C-IV, D-I
3. A-III, B-I, C-IV, D-II
4. A-IV, B-III, C-II, D-I

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046312**

Option 1 ID : **48180424577**

Option 2 ID : **48180424578**

Option 3 ID : **48180424579**

Option 4 ID : **48180424580**

Status : **Answered**

Chosen Option : **2**

Q.10 Match the **LIST-I** with **LIST-II**

LIST-I		LIST-II	
Assessment		Function	
A.	Norm-Referenced	I.	Position of the learner in the class
B.	Criterion Referenced	II.	Cut off marks
C.	Self Referenced	III.	Current behavior compared to earlier behavior
D.	Competency Based	IV.	Measures effective performance of task

Choose the **correct** answer from the options given below:

1. A-III, B-IV, C-II, D-I
2. A-IV, B-I, C-III, D-II
3. A-II, B-IV, C-I, D-III
4. A-I, B-II, C-III, D-IV

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046302**

Option 1 ID : **48180424537**

Option 2 ID : **48180424538**

Option 3 ID : **48180424539**

Option 4 ID : **48180424540**

Status : **Answered**

Chosen Option : **4**

Q.11 Arrange the following stages of personality development sequentially as proposed by Freud

- A. Phallic
- B. Oral
- C. Anal
- D. Genital
- E. Latency

Choose the **correct** answer from the options given below:

1. B, A, C, E, D
2. B, C, A, E, D
3. B, D, E, C, A
4. A, E, C, D, B

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046300**

Option 1 ID : **48180424529**

Option 2 ID : **48180424530**

Option 3 ID : **48180424531**

Option 4 ID : **48180424532**

Status : **Answered**

Chosen Option : **1**

Q.12 The teacher is the only source of knowledge. This dictum justifies the teaching method:

1. Lecture method
2. Project method
3. Learner centric method
4. Outcome based method

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046299**

Option 1 ID : **48180424525**

Option 2 ID : **48180424526**

Option 3 ID : **48180424527**

Option 4 ID : **48180424528**

Status : **Answered**

Chosen Option : **1**

Q.13 Arrange the following steps according to deductive reasoning

- A. Data collection
- B. Hypothesis
- C. General principle (Theory)
- D. Specific Result
- E. Analysis

Choose the **correct** answer from the options given below:

1. B, A, C, D, E
2. A, B, C, D, E
3. C, B, A, E, D
4. D, E, A, B, C

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046319**

Option 1 ID : **48180424605**

Option 2 ID : **48180424606**

Option 3 ID : **48180424607**

Option 4 ID : **48180424608**

Status : **Answered**

Chosen Option : **2**

Q.14 Green Accounting is a widely prevalent concept both in developed and underdeveloped countries. Which of the following are true related to it?

- A. It can be described as number of individuals of a species that it can sustain.
- B. It underlines the same concept of sustainable development.
- C. It provides us an economic interpretation of both resource base and the environment quality as against the GDP.
- D. It gives us a uniform level by converting both natural resource base and the environment quality in monetary terms.
- E. The concepts of green accounting and carrying capacity are different.

Choose the **correct** answer from the options given below:

- 1. A, B, D only
- 2. A, C, E only
- 3. B, C, E only
- 4. B, C, D only

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046331**

Option 1 ID : **48180424653**

Option 2 ID : **48180424654**

Option 3 ID : **48180424655**

Option 4 ID : **48180424656**

Status : **Answered**

Chosen Option : **4**

Q.15 Forms of interpersonal conflicts combine

- A. Pervasive communication
- B. Innovation Diffusion
- C. Hostile episode
- D. Agenda-setting model
- E. Disagreeable communication

Choose the **correct** answer from the options given below:

- 1. C, D & E only
- 2. A, C & E only
- 3. A, C & D only
- 4. B, C & D only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046311**

Option 1 ID : **48180424573**

Option 2 ID : **48180424574**

Option 3 ID : **48180424575**

Option 4 ID : **48180424576**

Status : **Answered**

Chosen Option : **2**

Q.16 Arrange the opening lines of stanzas in Vande Matram

- A. Sujalam, Suflam malyaj sheetalam
- B. Saptakoti kanth kalkal ninad karale
- C. Shubra jyotsna pulkit yaminim
- D. Tvan hi durga dashapraharan dharini
- E. Tumi vidya tumi dharma, tumi hridi tumi marma

Choose the **correct** answer from the options given below:

- 1. A, C, D, E, B
- 2. A, C, B, D, E
- 3. A, C, B, E, D
- 4. D, E, B, A, C

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 4818046334

Option 1 ID : 48180424665

Option 2 ID : 48180424666

Option 3 ID : 48180424667

Option 4 ID : 48180424668

Status : Answered

Chosen Option : 1

Q.17 A study in which the researcher directly intervenes in and / or manipulates a natural setting in order to observe what happens as a consequence of that intervention is called as:

- 1. Field simulation
- 2. Field negotiation
- 3. Field disturbance
- 4. Field investigation

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 4818046303

Option 1 ID : 48180424541

Option 2 ID : 48180424542

Option 3 ID : 48180424543

Option 4 ID : 48180424544

Status : Answered

Chosen Option : 1

Q.18 Gyan Vani FM channel is run by:

1. AICTE
2. UGC
3. IGNOU
4. NIOS

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 4818046323

Option 1 ID : 48180424621

Option 2 ID : 48180424622

Option 3 ID : 48180424623

Option 4 ID : 48180424624

Status : Answered

Chosen Option : 1

Q.19 Arrange the following stages of transmission models of news learning mentioned in Denis Mcquail's book from start to end:

- A. Comprehension
- B. News item display
- C. Learning
- D. Actual Exposure
- E. Recall

Choose the correct answer from the options given below:

1. B, D, A, E, C
2. B, D, E, A, C
3. C, B, E, A, D
4. E, B, D, A, C

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 4818046310

Option 1 ID : 48180424569

Option 2 ID : 48180424570

Option 3 ID : 48180424571

Option 4 ID : 48180424572

Status : Answered

Chosen Option : 2

Q.20 Select CORRECT statements pertaining to phases of teaching

- A. Sequential arrangement of content is done during Pre-active phase
- B. A quick review of interest, aptitude and ability of learners is a post-active phase
- C. Formulation of objectives is a step in pre-active phase
- D. Assessment is done in post-active phase
- E. Evaluation is done to measure learning progress during Inter-active phase

Choose the **correct** answer from the options given below:

- 1. A and C only
- 2. B and D only
- 3. B and E only
- 4. A, B, C and E only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046301**

Option 1 ID : **48180424533**

Option 2 ID : **48180424534**

Option 3 ID : **48180424535**

Option 4 ID : **48180424536**

Status : **Answered**

Chosen Option : **2**

Q.21 Arrange the steps followed to delete an E-mail permanently:

- A. Click on Inbox of your email
- B. Click delete, the e-mail will be sent to Trash folder
- C. Confirm the clear/delete trash option, folder will get empty
- D. Select checkbox corresponding to e-mails you want to delete
- E. Click on Empty trash option

Choose the **correct** answer from the options given below:

- 1. A, D, B, C, E
- 2. A, D, B, E, C
- 3. A, B, D, C, E
- 4. A, B, D, E, C

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046324**

Option 1 ID : **48180424625**

Option 2 ID : **48180424626**

Option 3 ID : **48180424627**

Option 4 ID : **48180424628**

Status : **Answered**

Chosen Option : **2**

Q.22 Which devices are NOT used in a network?

- A. DJ45
- B. Gateway
- C. Modem
- D. RJ45
- E. Media Access Control (MAC)

Choose the **correct** answer from the options given below:

- 1. A, D only
- 2. B, C only
- 3. A, E only
- 4. D, E only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046325**

Option 1 ID : **48180424629**

Option 2 ID : **48180424630**

Option 3 ID : **48180424631**

Option 4 ID : **48180424632**

Status : **Answered**

Chosen Option : **1**

Q.23 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	1GB (Gigabytes)	I.	10^{12} bytes
B.	1KB (Kilobytes)	II.	10^6 bytes
C.	1TB (Terabytes)	III.	10^3 bytes
D.	1MB (Megabytes)	IV.	10^9 bytes

Choose the **correct** answer from the options given below:

1. A-III, B-IV, C-II, D-I
2. A-IV, B-I, C-III, D-II
3. A-III, B-II, C-I, D-IV
4. A-IV, B-III, C-I, D-II

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046327**

Option 1 ID : **48180424637**

Option 2 ID : **48180424638**

Option 3 ID : **48180424639**

Option 4 ID : **48180424640**

Status : **Answered**

Chosen Option : **4**

Q.24 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	Carvak	I.	First step in Pabbaja
B.	Sharantrayi	II.	A Upnishad
C.	Kalesha	III.	Nastik school of Indian philosophy
D.	Mandukya	IV.	Asmita-one of five affliction

Choose the **correct** answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-III, B-I, C-IV, D-II
3. A-IV, B-II, C-I, D-III
4. A-III, B-II, C-I, D-IV

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046337**

Option 1 ID : **48180424677**

Option 2 ID : **48180424678**

Option 3 ID : **48180424679**

Option 4 ID : **48180424680**

Status : **Answered**

Chosen Option : **3**

Q.25 In one of the 'Conference of Parties' (COP), an agreement on plans for finance to mitigate the effects of climate change and help developing nations transition to more sustainable energy sources had been signed. Which country hosted that COP?

1. United Kingdom, COP 26
2. United Arab Emirates, COP 28
3. Azerbaijan, COP 29
4. Brazil, COP 30

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046328**

Option 1 ID : **48180424641**

Option 2 ID : **48180424642**

Option 3 ID : **48180424643**

Option 4 ID : **48180424644**

Status : **Answered**

Chosen Option : **1**

Q.26 Which of the following statements correctly explain the fallacy of hasty generalization?

- A. It draws a general conclusion from insufficient evidence
- B. It is also known as converse accident
- C. It relies on large and representative samples
- D. It often results in stereotypes
- E. Anecdotal evidence is sufficient to justify generalization

Choose the **correct** answer from the options given below:

1. A, B and D only
2. A, C and D only
3. B, C and E only
4. C, D and E only

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046320**

Option 1 ID : **48180424609**

Option 2 ID : **48180424610**

Option 3 ID : **48180424611**

Option 4 ID : **48180424612**

Status : **Answered**

Chosen Option : **1**

Q.27 Which of the following pertain to the Denotation?

- A. Extension
- B. Intension
- C. Area
- D. Limit
- E. Aim

Choose the **correct** answer from the options given below:

- 1. A, C and D only
- 2. B, C and E only
- 3. A, D and E only
- 4. B, D and E only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046321**

Option 1 ID : **48180424613**

Option 2 ID : **48180424614**

Option 3 ID : **48180424615**

Option 4 ID : **48180424616**

Status : **Answered**

Chosen Option : **4**

Q.28 Match the LIST-I with LIST-II

If $a = \frac{\sqrt{5}-2}{\sqrt{5}+2}$, then match the following

LIST-I		LIST-II	
A.	$a + \frac{1}{a}$	I.	$8\sqrt{5}$
B.	$\frac{1}{a} - a$	II.	161
C.	$\frac{1}{2}\left(a^2 + \frac{1}{a^2}\right)$	III.	18
D.	$\frac{1}{a^2} - a^2$	IV.	$144\sqrt{5}$

Choose the **correct** answer from the options given below:

1. A-IV, B-I, C-III, D-II
2. A-III, B-I, C-II, D-IV
3. A-I, B-II, C-III, D-IV
4. A-I, B-III, C-II, D-IV

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046316**

Option 1 ID : **48180424593**

Option 2 ID : **48180424594**

Option 3 ID : **48180424595**

Option 4 ID : **48180424596**

Status : **Answered**

Chosen Option : **3**

Q.29 Which of the following defines selective exposure?

1. The idea that you are more likely to recall things that support your beliefs, values and attitude
2. The idea that you are more likely to expose yourself to that which supports your beliefs, values and attitude
3. The idea that you are more likely to perceive and focus on things that support your beliefs, values and attitudes
4. News selection

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046309**

Option 1 ID : **48180424565**

Option 2 ID : **48180424566**

Option 3 ID : **48180424567**

Option 4 ID : **48180424568**

Status : **Answered**

Chosen Option : **2**

Q.30 This term is derived from the French, meaning type or classification. It is used in literature and mostly in cinema to classify as a tragedy, epic, comedy, satire, action etc. What is this term?

1. A-la-carte
2. Typecast
3. Guild
4. Genre

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046308**

Option 1 ID : **48180424561**

Option 2 ID : **48180424562**

Option 3 ID : **48180424563**

Option 4 ID : **48180424564**

Status : **Answered**

Chosen Option : **4**

Q.31 Foreign universities can now open campus in India. This is because India is a signatory of :

1. Dunkel Project (DP)
2. General Agreement on Trade in Services (GATS)
3. Sustainable Development Goals (SDGs)
4. Incheon Declarations (ID)

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046333**

Option 1 ID : **48180424661**

Option 2 ID : **48180424662**

Option 3 ID : **48180424663**

Option 4 ID : **48180424664**

Status : **Answered**

Chosen Option : **1**

Q.32 Match the LIST-I with LIST-II

LIST-I Theorist		LIST-II Concept/Perspective	
A.	August Comte	I.	Falsification
B.	Karl Popper	II.	Interpretivism
C.	Max Weber	III.	Feminism
D.	Claire Wallace	IV.	Positivism

Choose the **correct** answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-II, B-I, C-IV, D-III
3. A-IV, B-III, C-I, D-II
4. A-IV, B-I, C-II, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046307**

Option 1 ID : **48180424557**

Option 2 ID : **48180424558**

Option 3 ID : **48180424559**

Option 4 ID : **48180424560**

Status : **Answered**

Chosen Option : **3**

Q.33 Arrange the steps in hypothetico-deductive model

- A. Data analysis
- B. Observation
- C. Framing hypothesis
- D. Data collection
- E. Reject/accept hypothesis

Choose the **correct** answer from the options given below:

- 1. C, B, A, D, E
- 2. B, C, D, A, E
- 3. D, A, C, B, E
- 4. A, B, C, D, E

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046304**

Option 1 ID : **48180424545**

Option 2 ID : **48180424546**

Option 3 ID : **48180424547**

Option 4 ID : **48180424548**

Status : **Answered**

Chosen Option : **3**

Q.34 Which among these are the input devices?

- A. Touch pad
- B. Touch screen
- C. Magnetic Ink Character Recognition (MICR)
- D. Optical Mark Reading and Recognition (OMR)
- E. Monitor

Choose the **correct** answer from the options given below:

- 1. A, B only
- 2. B, D & E only
- 3. A, B, C, D only
- 4. C, D, E only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046326**

Option 1 ID : **48180424633**

Option 2 ID : **48180424634**

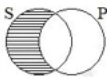
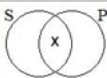
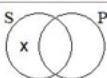
Option 3 ID : **48180424635**

Option 4 ID : **48180424636**

Status : **Answered**

Chosen Option : **3**

Q.35 Match the LIST-I with LIST-II

LIST-I	LIST-II
A. A - proposition	I. 
B. E - proposition	II. 
C. I - proposition	III. 
D. O - proposition	IV. 

Choose the **correct** answer from the options given below:

1. A-IV, B-III, C-II, D-I
2. A-II, B-III, C-I, D-IV
3. A-III, B-II, C-IV, D-I
4. A-I, B-II, C-III, D-IV

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046322**

Option 1 ID : **48180424617**

Option 2 ID : **48180424618**

Option 3 ID : **48180424619**

Option 4 ID : **48180424620**

Status : **Answered**

Chosen Option : **2**

Q.36 Arrange the following in the decreasing order

- A. LCM of 15, 20, 75
- B. LCM of $\frac{25}{3}, \frac{40}{9}, \frac{50}{6}$
- C. HCF of 600, 150, 675
- D. LCM of 4, 6, 9
- E. HCF of 0.5, 1.5, 3.5

Choose the **correct** answer from the options given below:

- 1. A>C>B>D>E
- 2. A>C>B>E>D
- 3. A>B>C>D>E
- 4. A>B>C>E>D

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046314**

Option 1 ID : **48180424585**

Option 2 ID : **48180424586**

Option 3 ID : **48180424587**

Option 4 ID : **48180424588**

Status : **Answered**

Chosen Option : **1**

Q.37 Some of the most useful code of ethics in social research have been formulated by -

- A. British Sociological Association
- B. German Sociological Society
- C. Social Research Association
- D. Austrian Psychological Association
- E. The political & psychological research council

Choose the **correct** answer from the options given below:

- 1. A & B only
- 2. A & C only
- 3. A & D only
- 4. B & E only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046306**

Option 1 ID : **48180424553**

Option 2 ID : **48180424554**

Option 3 ID : **48180424555**

Option 4 ID : **48180424556**

Status : **Answered**

Chosen Option : **2**

Q.38 Producing of the following items requires huge amount of fresh water. Arrange them from highest to lowest in order of water-consumption.

- A. Bread
- B. Car
- C. Jeans
- D. House
- E. T-shirt

Choose the **correct** answer from the options given below:

- 1. D, C, E, B, A
- 2. D, B, E, C, A
- 3. D, E, B, C, A
- 4. D, B, C, E, A

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046329**

Option 1 ID : **48180424645**

Option 2 ID : **48180424646**

Option 3 ID : **48180424647**

Option 4 ID : **48180424648**

Status : **Answered**

Chosen Option : **4**

Q.39 The effective implementation of the world ethics will only be possible if it is taken up by all sections of the community. It should include,

- A. Parents teaching their children to act with respect for other people and other species.
- B. Educators incorporating the world ethics into their teaching.
- C. Artists have significant role in it.
- D. Technologists must not take part in it.
- E. As no legal issues are involved in world ethics, lawyers have no role in it.

Choose the **correct** answer from the options given below:

- 1. A, B, C only
- 2. A, C, D only
- 3. A, D, E only
- 4. B, C, E only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046335**

Option 1 ID : **48180424669**

Option 2 ID : **48180424670**

Option 3 ID : **48180424671**

Option 4 ID : **48180424672**

Status : **Answered**

Chosen Option : **1**

Q.40 Match the LIST-I with LIST-II

LIST-I Radionuclide		LIST-II Target Tissue	
A.	Iodine - 131	I.	Spleen
B.	Strontium - 90	II.	Bones
C.	Plutonium - 239	III.	Soft tissue
D.	Caesium - 137	IV.	Liver

Choose the **correct** answer from the options given below:

- 1. A-I, B-II, C-IV, D-III
- 2. A-III, B-IV, C-II, D-I
- 3. A-IV, B-III, C-I, D-II
- 4. A-II, B-I, C-III, D-IV

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046332**

Option 1 ID : **48180424657**

Option 2 ID : **48180424658**

Option 3 ID : **48180424659**

Option 4 ID : **48180424660**

Status : **Answered**

Chosen Option : **2**

Q.41 For the maxim of teaching, from known to unknown, the first thing to be focused by the teacher is -

1. Recapitulation
2. Presentation of the teacher
3. Content Selection
4. Previous knowledge of the learner

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046298**

Option 1 ID : **48180424521**

Option 2 ID : **48180424522**

Option 3 ID : **48180424523**

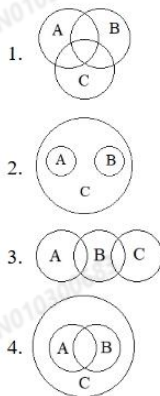
Option 4 ID : **48180424524**

Status : **Answered**

Chosen Option : **1**

Q.42 Select the Venn diagram that best illustrates the relationship among the following classes:

(A) Dogs (B) Pets (C) Cats



Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046318**

Option 1 ID : **48180424601**

Option 2 ID : **48180424602**

Option 3 ID : **48180424603**

Option 4 ID : **48180424604**

Status : **Answered**

Chosen Option : **1**

Q.43 The average test score of a class of m students is 60 and that of n students is 81. When the scores of both classes are combined, then the average is 70. In this context, which of the following statements are correct?

- A. $\frac{m+n}{m-n} = 21$
- B. $\frac{m}{m-n} = 11$
- C. $\frac{n}{n+m} = 10$
- D. $\frac{m}{m+n} = 11$
- E. $\frac{n}{m-n} = 10$

Choose the **correct** answer from the options given below:

- 1. A, B, C only
- 2. A, B, E only
- 3. C, D, E only
- 4. B, C, D only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046315**

Option 1 ID : **48180424589**

Option 2 ID : **48180424590**

Option 3 ID : **48180424591**

Option 4 ID : **48180424592**

Status : **Answered**

Chosen Option : **1**

Q.44 Match the **LIST-I** with **LIST-II**

LIST-I	LIST-II
A. $\sin^2 30^\circ + \cos^2 30^\circ + \sin 90^\circ$	I. 4
B. $\sin^2 45^\circ + \cos^2 45^\circ + \cos 90^\circ$	II. 2
C. $2 \sin^2 60^\circ + 2 \cos^2 30^\circ + \cos 0^\circ$	III. 1
D. $4 \cos 60^\circ + 2 \cos^2 30^\circ + 5 \sin^2 45^\circ$	IV. 6

Choose the **correct** answer from the options given below:

- 1. A-III, B-IV, C-I, D-II
- 2. A-II, B-III, C-I, D-IV
- 3. A-IV, B-III, C-II, D-I
- 4. A-III, B-II, C-IV, D-I

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046317**

Option 1 ID : **48180424597**

Option 2 ID : **48180424598**

Option 3 ID : **48180424599**

Option 4 ID : **48180424600**

Status : **Answered**

Chosen Option : **2**

Q.45 The sum of two numbers is 20 and the product of their LCM and HCF is 96. Then the sum of squares of these numbers is equal to:

1. 208
2. 582
3. 2308
4. 1033

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046313**

Option 1 ID : **48180424581**

Option 2 ID : **48180424582**

Option 3 ID : **48180424583**

Option 4 ID : **48180424584**

Status : **Answered**

Chosen Option : **4**

Comprehension:

The workforce has become increasingly more diverse and this trend toward diversity will continue. This includes increasing diversity along racial, ethnic and gender lines, as well as an increasing percentage of the workforce that is over age fifty-five. Effectively managing diversity has been identified as one of five distinguishing features of organizations that make it onto Fortune magazine's list of 100 Best Companies. Diversity issues have several implications for HRD professionals. First, organizations need to address racial, ethnic and other prejudices that may persist, as well as cultural insensitivity and language differences. Second, with the increasing numbers of women in the workforce, organizations should continue to provide developmental opportunities that will prepare women for advancement into the senior ranks and provide safeguards against sexual harassment. Third, the ageing of the workforce highlights the importance of creating HRD programs that recognize and address the learning-related needs of both younger and older workers. Diversity can be a catalyst for improved organizational performance - though this is far from a sure thing!

SubQuestion No : 46

Q.46 The prediction of diversity in the opening line of the paragraph is that the trend will:

1. Stop
2. Persist
3. Transform
4. Diverge

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046340**

Option 1 ID : **48180424685**

Option 2 ID : **48180424686**

Option 3 ID : **48180424687**

Option 4 ID : **48180424688**

Status : **Answered**

Chosen Option : **3**

Comprehension:

The workforce has become increasingly more diverse and this trend toward diversity will continue. This includes increasing diversity along racial, ethnic and gender lines, as well as an increasing percentage of the workforce that is over age fifty-five. Effectively managing diversity has been identified as one of five distinguishing features of organizations that make it onto Fortune magazine's list of 100 Best Companies. Diversity issues have several implications for HRD professionals. First, organizations need to address racial, ethnic and other prejudices that may persist, as well as cultural insensitivity and language differences. Second, with the increasing numbers of women in the workforce, organizations should continue to provide developmental opportunities that will prepare women for advancement into the senior ranks and provide safeguards against sexual harassment. Third, the ageing of the workforce highlights the importance of creating HRD programs that recognize and address the learning-related needs of both younger and older workers. Diversity can be a catalyst for improved organizational performance - though this is far from a sure thing!

SubQuestion No : 47

Q.47 Organizations should provide developmental opportunities for women so as to -

1. Assist them to move up the hierarchical ladder
2. Help them to get recruited
3. Assist in childcare
4. Help them to gain visibility

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046343**

Option 1 ID : **48180424697**

Option 2 ID : **48180424698**

Option 3 ID : **48180424699**

Option 4 ID : **48180424700**

Status : **Answered**

Chosen Option : **1**

Comprehension:

The workforce has become increasingly more diverse and this trend toward diversity will continue. This includes increasing diversity along racial, ethnic and gender lines, as well as an increasing percentage of the workforce that is over age fifty-five. Effectively managing diversity has been identified as one of five distinguishing features of organizations that make it onto Fortune magazine's list of 100 Best Companies. Diversity issues have several implications for HRD professionals. First, organizations need to address racial, ethnic and other prejudices that may persist, as well as cultural insensitivity and language differences. Second, with the increasing numbers of women in the workforce, organizations should continue to provide developmental opportunities that will prepare women for advancement into the senior ranks and provide safeguards against sexual harassment. Third, the ageing of the workforce highlights the importance of creating HRD programs that recognize and address the learning-related needs of both younger and older workers. Diversity can be a catalyst for improved organizational performance - though this is far from a sure thing!

SubQuestion No : 48

Q.48 What does the last line of the passage imply?

1. Diversity has a harmful effect on organizational performance.
2. There is ambiguity regarding its role for improved organisational performance.
3. Diversity does not bring change in organizational performance.
4. Diversity has a negative impact on employees.

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046341**

Option 1 ID : **48180424689**

Option 2 ID : **48180424690**

Option 3 ID : **48180424691**

Option 4 ID : **48180424692**

Status : **Answered**

Chosen Option : **2**

Comprehension:

The workforce has become increasingly more diverse and this trend toward diversity will continue. This includes increasing diversity along racial, ethnic and gender lines, as well as an increasing percentage of the workforce that is over age fifty-five. Effectively managing diversity has been identified as one of five distinguishing features of organizations that make it onto Fortune magazine's list of 100 Best Companies. Diversity issues have several implications for HRD professionals. First, organizations need to address racial, ethnic and other prejudices that may persist, as well as cultural insensitivity and language differences. Second, with the increasing numbers of women in the workforce, organizations should continue to provide developmental opportunities that will prepare women for advancement into the senior ranks and provide safeguards against sexual harassment. Third, the ageing of the workforce highlights the importance of creating HRD programs that recognize and address the learning-related needs of both younger and older workers. Diversity can be a catalyst for improved organizational performance - though this is far from a sure thing!

SubQuestion No : 49

Q.49 Making it to the Fortune magazine's list of 100 best companies is one of the rewards related to:

1. Popularizing learning-related needs
2. Corporate Social Responsibility
3. Effectively managing diversity
4. Respectful treatment of employees.

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046342**

Option 1 ID : **48180424693**

Option 2 ID : **48180424694**

Option 3 ID : **48180424695**

Option 4 ID : **48180424696**

Status : **Answered**

Chosen Option : **3**

Comprehension:

The workforce has become increasingly more diverse and this trend toward diversity will continue. This includes increasing diversity along racial, ethnic and gender lines, as well as an increasing percentage of the workforce that is over age fifty-five. Effectively managing diversity has been identified as one of five distinguishing features of organizations that make it onto Fortune magazine's list of 100 Best Companies. Diversity issues have several implications for HRD professionals. First, organizations need to address racial, ethnic and other prejudices that may persist, as well as cultural insensitivity and language differences. Second, with the increasing numbers of women in the workforce, organizations should continue to provide developmental opportunities that will prepare women for advancement into the senior ranks and provide safeguards against sexual harassment. Third, the ageing of the workforce highlights the importance of creating HRD programs that recognize and address the learning-related needs of both younger and older workers. Diversity can be a catalyst for improved organizational performance - though this is far from a sure thing!

SubQuestion No : 50

Q.50 The specific requirement of an ageing workforce would be related to:

1. Removal of prejudices
2. Learning-related needs
3. Cultural sensitivity
4. Racial parity

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046339**

Option 1 ID : **48180424681**

Option 2 ID : **48180424682**

Option 3 ID : **48180424683**

Option 4 ID : **48180424684**

Status : **Answered**

Chosen Option : **2**

Section : **Electronic Science**

Q.51 Arrange the following deposition processes in the increasing order of temperature requirements.

- A. Chemical vapour deposition (CVD)
- B. Plasma - enhanced chemical vapour deposition (PECVD)
- C. Atomic layer Deposition (ALD)
- D. Metal-organic chemical vapour deposition (MOCVD)

Choose the **correct** answer from the options given below:

- 1. D, B, C, A
- 2. C, B, A, D
- 3. C, A, B, D
- 4. D, A, B, C

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046385**

Option 1 ID : **48180424865**

Option 2 ID : **48180424866**

Option 3 ID : **48180424867**

Option 4 ID : **48180424868**

Status : **Answered**

Chosen Option : **1**

Q.52 Match the LIST-I with LIST-II

LIST-I	LIST-II
A. Birds beak formation	I. STI isolation
B. Inverse narrow width effect	II. Junction isolation
C. Lowest component density	III. LOCOS isolation
D. Noise and Latch-up prevention	IV. Guard Ring isolation

Choose the **correct** answer from the options given below:

- 1. A-I, B-III, C-II, D-IV
- 2. A-I, B-IV, C-III, D-II
- 3. A-III, B-I, C-II, D-IV
- 4. A-III, B-II, C-IV, D-I

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046421**

Option 1 ID : **48180425009**

Option 2 ID : **48180425010**

Option 3 ID : **48180425011**

Option 4 ID : **48180425012**

Status : **Answered**

Chosen Option : **1**

Q.53 The minimum number of 2-to-1 multiplexers required to implement a 32-to-1 multiplexer is

1. 31
2. 32
3. 16
4. 15

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046363**

Option 1 ID : **48180424777**

Option 2 ID : **48180424778**

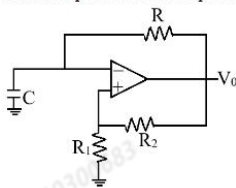
Option 3 ID : **48180424779**

Option 4 ID : **48180424780**

Status : **Answered**

Chosen Option : **3**

Q.54 The time period of the output waveform of the astable multi-vibrator circuit shown below is given as



1. $T = 2RC \ln \left[1 + \frac{2R_2}{R_1} \right]$

2. $T = 2RC \ln \left[1 + \frac{R_2}{R_1} \right]$

3. $T = 2RC \ln \left[1 + \frac{2R_1}{R_2} \right]$

4. $T = 2RC \ln \left[1 + \frac{R_1}{R_2} \right]$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046358**

Option 1 ID : **48180424757**

Option 2 ID : **48180424758**

Option 3 ID : **48180424759**

Option 4 ID : **48180424760**

Status : **Answered**

Chosen Option : **2**

Q.55 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	Cache memory	I.	EPROM
B.	Main memory	II.	DRAM
C.	Auxiliary memory	III.	SRAM
D.	Portable memory	IV.	MRAM

Choose the **correct** answer from the options given below:

1. A-IV, B-II, C-III, D-I
2. A-III, B-II, C-IV, D-I
3. A-II, B-IV, C-III, D-I
4. A-I, B-IV, C-II, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046425**

Option 1 ID : **48180425025**

Option 2 ID : **48180425026**

Option 3 ID : **48180425027**

Option 4 ID : **48180425028**

Status : **Answered**

Chosen Option : **4**

Q.56 The minimum number of states in the state-diagram of a Mealy type finite state machine designed to detect a binary sequence 110 is

1. 5
2. 4
3. 3
4. 6

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046360**

Option 1 ID : **48180424765**

Option 2 ID : **48180424766**

Option 3 ID : **48180424767**

Option 4 ID : **48180424768**

Status : **Answered**

Chosen Option : **1**

Q.57 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	$\mathcal{L}(t^4 \cdot e^{-at} \cdot u(t))$	I.	$s \xrightarrow{Lt} 0 [sF(s)]$
B.	$\mathcal{L}(u(t) - u(t-4))$	II.	$s \xrightarrow{Lt} \infty [sF(s)]$
C.	Initial value theorem $f(0^+)$	III.	$\frac{1}{s}(1 - e^{-4s})$
D.	Final value theorem $f(\infty)$	IV.	$\frac{24}{(s+a)^5}$

Choose the **correct** answer from the options given below:

1. A-III, B-IV, C-I, D-II
2. A-IV, B-III, C-I, D-II
3. A-IV, B-II, C-III, D-I
4. A-IV, B-III, C-II, D-I

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046423**

Option 1 ID : **48180425017**

Option 2 ID : **48180425018**

Option 3 ID : **48180425019**

Option 4 ID : **48180425020**

Status : **Answered**

Chosen Option : **2**

Q.58 Table gives the set of 10 measurements that were recorded in the laboratory. What is the precision of the 6th measurement?

Measurement Number	Measurement Value (x_n)
1	98
2	101
3	102
4	97
5	101
6	100
7	103
8	98
9	106
10	99

1. 0.901
2. 0.995
3. 0.899
4. 0.896

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046380**

Option 1 ID : **48180424845**

Option 2 ID : **48180424846**

Option 3 ID : **48180424847**

Option 4 ID : **48180424848**

Status : **Answered**

Chosen Option : **4**

Q.59 Arrange the following in terms of electron mobility from lowest to highest

- A. Gallium Arsenide
- B. Silicon
- C. Germanium
- D. Graphene

Choose the **correct** answer from the options given below:

- 1. B, C, A, D
- 2. B, A, C, D
- 3. D, A, B, C
- 4. C, B, D, A

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046384**

Option 1 ID : **48180424861**

Option 2 ID : **48180424862**

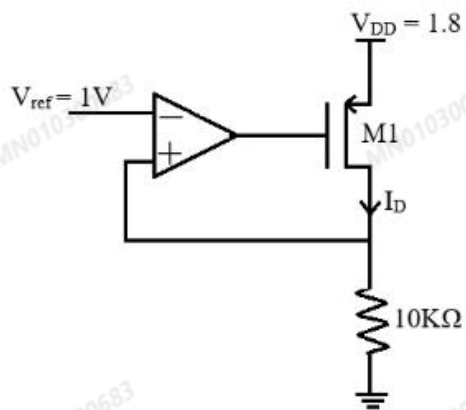
Option 3 ID : **48180424863**

Option 4 ID : **48180424864**

Status : **Answered**

Chosen Option : **4**

Q.60 Assuming an ideal op-amp, the value of drain current of M1 is



1. $100\ \mu A$
2. $160\ \mu A$
3. $140\ \mu A$
4. $180\ \mu A$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046359

Option 1 ID : 48180424761

Option 2 ID : 48180424762

Option 3 ID : 48180424763

Option 4 ID : 48180424764

Status : Answered

Chosen Option : 1

Q.61 Which of the following statements are correct?

- A. In a piezoelectric transducer, the output voltage is directly proportional to shunt capacitance
- B. Sphygmomanometer works very well at very low blood pressures.
- C. Light weight encryption algorithms are required for IoTs.
- D. Sacrificial layers are used in MEMS.
- E. In LVDT, nickel-iron alloy core is slotted longitudinally to reduce eddy current losses

Choose the **correct** answer from the options given below:

- 1. C, D and E Only
- 2. A, B and C Only
- 3. A, B and D Only
- 4. B, C and E Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046418**

Option 1 ID : **48180424997**

Option 2 ID : **48180424998**

Option 3 ID : **48180424999**

Option 4 ID : **48180425000**

Status : **Answered**

Chosen Option : **3**

Q.62 A delayed step function is defined as

- 1. $Ku(t-a) = Kt : t > 0$
- 2. $Ku(t-a) = K : t > 0$
- 3. $Ku(t-a) = K : t > a$
 $= 0 : t < a$
- 4. $Ku(t-a) = K : t < a$
 $= 0 : t > a$

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046354**

Option 1 ID : **48180424741**

Option 2 ID : **48180424742**

Option 3 ID : **48180424743**

Option 4 ID : **48180424744**

Status : **Answered**

Chosen Option : **2**

Q.63 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	AM	I.	Number of side bands are infinite
B.	SSB-SC	II.	Number of side bands is two
C.	NBFM	III.	Number of side bands is one
D.	WBFM	IV.	Number of side bands are two but opposite in phase

Choose the **correct** answer from the options given below:

1. A-IV, B-I, C-III, D-II
2. A-II, B-III, C-IV, D-I
3. A-I, B-II, C-IV, D-III
4. A-IV, B-III, C-II, D-I

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046430**

Option 1 ID : **48180425045**

Option 2 ID : **48180425046**

Option 3 ID : **48180425047**

Option 4 ID : **48180425048**

Status : **Answered**

Chosen Option : **1**

Q.64

The impulse response $h(n) = \left[\frac{1}{2}\right]^n u(n+3)$ of an LTI System is

- A. Unstable
- B. Stable
- C. Causal
- D. non-causal
- E. non-linear and time varying

Choose the **correct** answer from the options given below:

- 1. A, D Only
- 2. B, C Only
- 3. B, D Only
- 4. B, D, E Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046411**

Option 1 ID : **48180424969**

Option 2 ID : **48180424970**

Option 3 ID : **48180424971**

Option 4 ID : **48180424972**

Status : **Answered**

Chosen Option : **2**

Q.65 Casimir effect is associated with:

- 1. Bridges
- 2. Digital Multimeters
- 3. Transducers
- 4. MEMS

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046382**

Option 1 ID : **48180424853**

Option 2 ID : **48180424854**

Option 3 ID : **48180424855**

Option 4 ID : **48180424856**

Status : **Answered**

Chosen Option : **1**

Q.66 A parallel - plate capacitor with plate area of 5 cm^2 and plate separation of 3 mm has a voltage $50 \sin(10^3 t) \text{ V}$ applied to its plates. Calculate the displacement current (I_d) assuming $\epsilon = 2\epsilon_0$

1. $I_d = 147.4 \cos(10^3 t) \text{ nA}$
2. $I_d = 138.2 \cos(10^3 t) \text{ nA}$
3. $I_d = 144.5 \sin(10^3 t) \text{ nA}$
4. $I_d = 138.7 \sin(10^3 t) \text{ nA}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046370**

Option 1 ID : **48180424805**

Option 2 ID : **48180424806**

Option 3 ID : **48180424807**

Option 4 ID : **48180424808**

Status : **Answered**

Chosen Option : **3**

Q.67 Which of the following statements are correct?

- A. MOSFET is a three-terminal device.
- B. Zener diode is a heavily doped diode.
- C. The mobility of electrons in Germanium is higher than Silicon
- D. CNTs can be used as semiconductors as well as conductors
- E. The Fermi level of intrinsic semiconductor lies exactly at the centre between valence and conduction bands.

Choose the **correct** answer from the options given below:

1. B, C and D Only
2. A and E Only
3. A, B and C Only
4. B, C, D and E Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046409**

Option 1 ID : **48180424961**

Option 2 ID : **48180424962**

Option 3 ID : **48180424963**

Option 4 ID : **48180424964**

Status : **Answered**

Chosen Option : **1**

Q.68 Example of crossed - field tube (M type) is

- A. Reflex - Klystron
- B. TWT
- C. Magnetron
- D. Gyrotron

Choose the **correct** answer from the options given below:

- 1. A, B, C Only
- 2. C, D Only
- 3. A, B Only
- 4. B, C Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046415**

Option 1 ID : **48180424985**

Option 2 ID : **48180424986**

Option 3 ID : **48180424987**

Option 4 ID : **48180424988**

Status : **Answered**

Chosen Option : **3**

Q.69 A photon of 1400Å wavelength is absorbed by cold mercury vapor and two other photons are emitted. If one of these photon has a wavelength of 1850Å, what is the wave length of other photon?

- 1. 5212 Å
- 2. 5754 Å
- 3. 5617 Å
- 4. 5542 Å

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046346**

Option 1 ID : **48180424709**

Option 2 ID : **48180424710**

Option 3 ID : **48180424711**

Option 4 ID : **48180424712**

Status : **Answered**

Chosen Option : **1**

Q.70 Which of the following unit process steps in IC fabrication dictates the critical dimension (CD) ?

1. Oxidation
2. Diffusion
3. Etching
4. Lithography

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046350**

Option 1 ID : **48180424725**

Option 2 ID : **48180424726**

Option 3 ID : **48180424727**

Option 4 ID : **48180424728**

Status : **Answered**

Chosen Option : **3**

Q.71 Which of the following statements are correct?

- A. The superposition principle is applicable to any networks and systems.
- B. A reciprocal network comprises of linear, time-invariant, bilateral, passive elements only.
- C. Tellegen's theorem is applicable to any lumped network having linear or nonlinear elements.
- D. Thevenin's theorem is applicable to any linear network, time invariant or time varying.
- E. Norton's theorem is applicable to only time-invariant linear network.

Choose the **correct** answer from the options given below:

1. A, B and D Only
2. B, D and E Only
3. B, C and D Only
4. A, C and E Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046401**

Option 1 ID : **48180424929**

Option 2 ID : **48180424930**

Option 3 ID : **48180424931**

Option 4 ID : **48180424932**

Status : **Answered**

Chosen Option : **1**

Q.72 CuInGaSe_2 (CIGS) is used in which type of solar cell?

1. Thin film solar cell
2. Dye Sensitized solar cell
3. Perovskite solar cell
4. PERL Solar cell

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046345

Option 1 ID : 48180424705

Option 2 ID : 48180424706

Option 3 ID : 48180424707

Option 4 ID : 48180424708

Status : Answered

Chosen Option : 2

Q.73 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	Maxwell's Bridge	I.	Measurement of unknown capacitance
B.	Schering's Bridge	II.	Measurement of low value resistance
C.	Wien's Bridge	III.	Measurement of unknown inductance
D.	Kelvin's Bridge	IV.	Measurement of unknown frequency

Choose the **correct** answer from the options given below:

1. A-IV, B-III, C-II, D-I
2. A-I, B-III, C-IV, D-II
3. A-III, B-I, C-IV, D-II
4. A-I, B-IV, C-III, D-II

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046433

Option 1 ID : 48180425057

Option 2 ID : 48180425058

Option 3 ID : 48180425059

Option 4 ID : 48180425060

Status : Answered

Chosen Option : 2

Q.74 For 8051 microcontroller operating at frequency 11.0592 MHz, how long it will take to execute the instruction MUL AB

1. 1.085 μ s
2. 2.17 μ s
3. 3.255 μ s
4. 4.34 μ s

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 4818046365

Option 1 ID : 48180424785

Option 2 ID : 48180424786

Option 3 ID : 48180424787

Option 4 ID : 48180424788

Status : Answered

Chosen Option : 3

Q.75 In a Timer mode (TMOD) register, when

- A. C/T = 0, the timer gets pulse from the crystal.
- B. C/T = 1, the timer gets pulse from outside 8051.
- C. C/T = 1, the timer is used as a counter.
- D. C/T = 0, the timer get pulse from outside 8051.
- E. C/T = 0, the timer is used as a counter.

Choose the **correct** answer from the options given below:

1. B, D, E Only
2. C, D, E Only
3. B, C, D Only
4. A, B, C Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 4818046404

Option 1 ID : 48180424941

Option 2 ID : 48180424942

Option 3 ID : 48180424943

Option 4 ID : 48180424944

Status : Answered

Chosen Option : 1

Q.76 The external interrupts INT0 and INT1 of 8051 microcontroller are available at which pins of port-3?

1. INT0 → P3.4 and INT1 → P3.5
2. INT0 → P3.3 and INT1 → P3.4
3. INT0 → P3.2 and INT1 → P3.3
4. INT0 → P3.1 and INT1 → P3.2

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046367**

Option 1 ID : **48180424793**

Option 2 ID : **48180424794**

Option 3 ID : **48180424795**

Option 4 ID : **48180424796**

Status : **Answered**

Chosen Option : **4**

Q.77 Arrange the sequence of SCON (serial control) register from LSB to MSB

- A. REN
- B. RB8
- C. TB8
- D. RI
- E. TI

Choose the **correct** answer from the options given below:

1. A, B, C, D, E
2. C, B, E, A, D
3. D, E, B, C, A
4. E, D, C, B, A

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046391**

Option 1 ID : **48180424889**

Option 2 ID : **48180424890**

Option 3 ID : **48180424891**

Option 4 ID : **48180424892**

Status : **Answered**

Chosen Option : **2**

Q.78 In Dielectric-Dielectric boundary conditions, which of the following relations are true

- A. $E_{2t} = D_{1n}$
- B. $E_{1t} = E_{2t}$
- C. $D_{1n} = D_{2n}$
- D. $D_{1n} = E_{1t}$

Choose the **correct** answer from the options given below:

- 1. A, B, D Only
- 2. B, D Only
- 3. A, C, D Only
- 4. B, C Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046406**

Option 1 ID : **48180424949**

Option 2 ID : **48180424950**

Option 3 ID : **48180424951**

Option 4 ID : **48180424952**

Status : **Answered**

Chosen Option : **1**

Q.79 The sequence of convolution process to find output response $y[n]$ of a system having impulse response $h[n]$ and input signal $x[n]$ is

- A. Folding $h[k]$ about origin and get $h[-k]$
- B. Time shifting $h[k]$ to the right
- C. Multiplication of input and time shifted impulse signal
- D. Summation of all values of product to obtain output

Choose the **correct** answer from the options given below:

- 1. A, B, C, D
- 2. A, C, B, D
- 3. B, A, C, D
- 4. C, B, A, D

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046387**

Option 1 ID : **48180424873**

Option 2 ID : **48180424874**

Option 3 ID : **48180424875**

Option 4 ID : **48180424876**

Status : **Answered**

Chosen Option : **1**

Q.80 Analog-to-digital converter having conversion time independent of the magnitude of analog input is

- A. Flash ADC
- B. Digital Ramp ADC
- C. Successive Approximation ADC
- D. Dual-Slope Integrating ADC

Choose the **correct** answer from the options given below:

- 1. A and D Only
- 2. C and D Only
- 3. B and D Only
- 4. A and C Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046403**

Option 1 ID : **48180424937**

Option 2 ID : **48180424938**

Option 3 ID : **48180424939**

Option 4 ID : **48180424940**

Status : **Answered**

Chosen Option : **1**

Q.81 A feedback control system having transfer function

$$F(s) = \frac{K(s+2)}{s^2(s^2+s+2)(s+1)}$$

is a:

- 1. First - order system
- 2. Second - order system
- 3. Fourth - order system
- 4. Fifth - order system

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046377**

Option 1 ID : **48180424833**

Option 2 ID : **48180424834**

Option 3 ID : **48180424835**

Option 4 ID : **48180424836**

Status : **Answered**

Chosen Option : **2**

Q.82 Which of the following statements are correct?

- A. Piezo electric sensors are passive type sensors.
- B. The gauge factor is defined as the ratio of change in resistance ($\Delta R/R$) to the change in length ($\Delta L/L$).
- C. For a given amount of illumination on a very small area, the photodiode provides a much larger output current than that available from a phototransistor.
- D. In a spectrum analyzer, the saw-tooth wave is applied only to the horizontal plates.
- E. Hall effect can be used for the measurement of magnetic field.

Choose the **correct** answer from the options given below:

- 1. A and B Only
- 2. C and D Only
- 3. B and C Only
- 4. B and E Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046408**

Option 1 ID : **48180424957**

Option 2 ID : **48180424958**

Option 3 ID : **48180424959**

Option 4 ID : **48180424960**

Status : **Answered**

Chosen Option : **3**

Q.83 Match the **LIST-I** (Special function register of 8051) with **LIST-II** (Addresses)

LIST-I	LIST-II
A. Accumulator (A)	I. 98 H
B. Stack Pointer (SP)	II. 81 H
C. TMOD	III. 89 H
D. SCON	IV. 0E0H

Choose the **correct** answer from the options given below:

- 1. A-II, B-III, C-IV, D-I
- 2. A-IV, B-I, C-III, D-II
- 3. A-IV, B-II, C-III, D-I
- 4. A-II, B-I, C-IV, D-III

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046427**

Option 1 ID : **48180425033**

Option 2 ID : **48180425034**

Option 3 ID : **48180425035**

Option 4 ID : **48180425036**

Status : **Answered**

Chosen Option : **2**

Q.84 Arrange the following regions of operation of a MOSFET in the increasing order of its output conductance (g_{ds}).

- A. Triode region
- B. Deep triode region
- C. Saturation region
- D. Edge of saturation

Choose the **correct** answer from the options given below:

- 1. B, A, D, C
- 2. C, D, A, B
- 3. B, A, C, D
- 4. A, B, C, D

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046389**

Option 1 ID : **48180424881**

Option 2 ID : **48180424882**

Option 3 ID : **48180424883**

Option 4 ID : **48180424884**

Status : **Answered**

Chosen Option : **3**

Q.85 The Laplace transform of a damped sinusoidal function $f(t) = e^{-at} \sin(\omega t)$ is

- 1. $\frac{\omega}{(s+a)^2 + \omega^2}$
- 2. $\frac{s+a}{(s+a)^2 + \omega^2}$
- 3. $\frac{s}{(s+a)^2 + \omega^2}$
- 4. $\frac{s}{(s-a)^2 + \omega^2}$

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046352**

Option 1 ID : **48180424733**

Option 2 ID : **48180424734**

Option 3 ID : **48180424735**

Option 4 ID : **48180424736**

Status : **Answered**

Chosen Option : **4**

Q.86 Which of the following statements are correct?

- A. Snubber circuits are used for the protection of thyristors against over voltage and over current
- B. In a UPS, if the main supply fails, the load gets its input from a secondary ac-supply.
- C. The number of poles at origin determines the type of a system
- D. The Mason's Gain equation is given by $\frac{C(s)}{R(s)} = \frac{\sum F_i \cdot \Delta_i}{\sum F_i}$
- E. A thyristor can be turned ON if the rate of rise of the anode-cathode voltage is high

Choose the **correct** answer from the options given below:

- 1. A, C and D Only
- 2. A, B and C Only
- 3. A, C and E Only
- 4. A, B and E Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046417**

Option 1 ID : **48180424993**

Option 2 ID : **48180424994**

Option 3 ID : **48180424995**

Option 4 ID : **48180424996**

Status : **Answered**

Chosen Option : **4**

Q.87 Arrange the following blocks of ECG machine in the order in which they are connected from electrodes to pen motor

- A. Power amplifier
- B. Bridge output circuit
- C. Lead selector
- D. Pre-amplifier

Choose the **correct** answer from the options given below:

- 1. A, B, C, D
- 2. B, C, D, A
- 3. C, D, A, B
- 4. D, A, C, B

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046397**

Option 1 ID : **48180424913**

Option 2 ID : **48180424914**

Option 3 ID : **48180424915**

Option 4 ID : **48180424916**

Status : **Answered**

Chosen Option : **2**

Q.88 Arrange the following interrupt vector memory location in ascending order of address location.

- A. INT0
- B. INT1
- C. Timer 0 interrupt (TF0)
- D. Timer 1 interrupt (TF1)
- E. Serial COM interrupt (RI and TI)

Choose the **correct** answer from the options given below:

1. A, C, B, D, E
2. C, A, D, B, E
3. A, B, C, D, E
4. E, C, D, A, B

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046392**

Option 1 ID : **48180424893**

Option 2 ID : **48180424894**

Option 3 ID : **48180424895**

Option 4 ID : **48180424896**

Status : **Answered**

Chosen Option : **3**

Q.89 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	ZnO	I.	Sp ² hybridization
B.	Graphene	II.	Isoelectronic centre for GaP in GaAsP LEDs
C.	SiC	III.	Step staircase density of state function
D.	Quantum Well	IV.	wide bandgap material

Choose the **correct** answer from the options given below:

1. A-III, B-I, C-II, D-IV
2. A-II, B-IV, C-I, D-III
3. A-I, B-III, C-IV, D-II
4. A-II, B-I, C-IV, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046420**

Option 1 ID : **48180425005**

Option 2 ID : **48180425006**

Option 3 ID : **48180425007**

Option 4 ID : **48180425008**

Status : **Answered**

Chosen Option : **4**

Q.90 Calculate the thermal - equilibrium electron concentration in Germanium for a given doping concentration.

Consider Germanium sample at $T=300\text{ K}$ in which $N_d = 2 \times 10^{14}\text{ cm}^{-3}$ and $N_a = 0$, $n_i = 2.4 \times 10^{13}\text{ cm}^{-3}$

1. $3.58 \times 10^{13}\text{ cm}^{-3}$
2. $4.07 \times 10^{14}\text{ cm}^{-3}$
3. $1.58 \times 10^{13}\text{ cm}^{-3}$
4. $2.028 \times 10^{14}\text{ cm}^{-3}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046347**

Option 1 ID : **48180424713**

Option 2 ID : **48180424714**

Option 3 ID : **48180424715**

Option 4 ID : **48180424716**

Status : **Answered**

Chosen Option : **4**

Q.91 TEM mode is supported by _____

1. Rectangular waveguide
2. Cylindrical waveguide
3. Coaxial Transmission line
4. Microstrip line

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046371**

Option 1 ID : **48180424809**

Option 2 ID : **48180424810**

Option 3 ID : **48180424811**

Option 4 ID : **48180424812**

Status : **Answered**

Chosen Option : **3**

Q.92 An S-band radar transmitting at 3 GHz radiates 200 kW of power. Determine the signal power density at a range of 100 nautical miles if the effective area of the radar antenna is 9 m^2

1. $9.928 \text{ mW} / \text{m}^2$
2. $3.189 \text{ mW} / \text{m}^2$
3. $7.782 \text{ mW} / \text{m}^2$
4. $5.248 \text{ mW} / \text{m}^2$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046368**

Option 1 ID : **48180424797**

Option 2 ID : **48180424798**

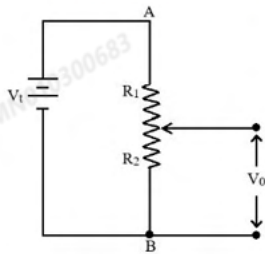
Option 3 ID : **48180424799**

Option 4 ID : **48180424800**

Status : **Answered**

Chosen Option : 2

Q.93 A displacement transducer, with a shaft stroke of 3.0 inches is applied to the circuit of figure given below. The total resistance of the potentiometer is $5 \text{ k}\Omega$. The applied voltage V_t is 5V. When the wiper is 0.9 inches from B, what is the value of the output voltage?



1. 2 V
2. 1.5 V
3. 3 V
4. 3.5 V

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046383**

Option 1 ID : **48180424857**

Option 2 ID : **48180424858**

Option 3 ID : **48180424859**

Option 4 ID : **48180424860**

Status : **Answered**

Chosen Option : 2

Q.94 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	PI Controller	I.	Introduces offset
B.	PD Controller	II.	Reduces steady state error and improves stability
C.	Proportional Controller	III.	Reduces steady state error
D.	PID Controller	IV.	Amplifies noise

Choose the **correct** answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-III, B-IV, C-I, D-II
3. A-IV, B-III, C-I, D-II
4. A-II, B-I, C-IV, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046432**

Option 1 ID : **48180425053**

Option 2 ID : **48180425054**

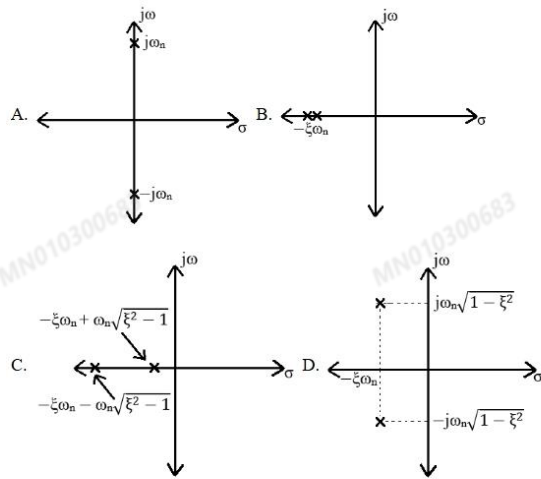
Option 3 ID : **48180425055**

Option 4 ID : **48180425056**

Status : **Answered**

Chosen Option : **2**

Q.95 The poles locations of a second order system are given below where ξ is the damping factor and ω_n is the natural frequency. Arrange the plots in decreasing value of ξ



Choose the **correct** answer from the options given below:

1. A, B, C, D
2. C, B, D, A
3. B, A, D, C
4. D, B, A, C

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046396**

Option 1 ID : **48180424909**

Option 2 ID : **48180424910**

Option 3 ID : **48180424911**

Option 4 ID : **48180424912**

Status : **Answered**

Chosen Option : **2**

Q.96 Which of the given statements are correct?

- A. Dry oxidation is faster than wet oxidation.
- B. Wet oxidation is faster than dry oxidation.
- C. Oxide deposition is used to form gate oxide of MOSFET.
- D. Silicon oxynitride (SiON) has higher dielectric constant than silicon dioxide (SiO₂)
- E. Thermal oxidation at high temperatures increases fixed oxide charges.

Choose the **correct** answer from the options given below:

- 1. B and D Only
- 2. A and D Only
- 3. C and D Only
- 4. B, C and E Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046410**

Option 1 ID : **48180424965**

Option 2 ID : **48180424966**

Option 3 ID : **48180424967**

Option 4 ID : **48180424968**

Status : **Answered**

Chosen Option : **2**

Q.97 Arrange the following series of TTL logic family in the increasing order of propagation delay.

- A. Standard 74 series
- B. Advanced Schottky 74 AS series
- C. Schottky 74 S series
- D. Low power 74 L series

Choose the **correct** answer from the options given below:

- 1. A, D, C, B
- 2. D, A, C, B
- 3. B, C, A, D
- 4. A, B, C, D

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046390**

Option 1 ID : **48180424885**

Option 2 ID : **48180424886**

Option 3 ID : **48180424887**

Option 4 ID : **48180424888**

Status : **Answered**

Chosen Option : **2**

Q.98 Which of the following statements is correct for thyristor?

1. Latching current is less than holding current
2. Latching current is the minimum anode current required to maintain the thyristor in the on-state immediately after a thyristor has been turned on and the gate signal is removed.
3. Holding current is the minimum anode current to maintain thyristor in the off-state
4. Forward breakdown voltage V_{BO} is the anode to cathode voltage at which junctions J_1 & J_3 break down while the junction J_2 does not.

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046378**

Option 1 ID : **48180424837**

Option 2 ID : **48180424838**

Option 3 ID : **48180424839**

Option 4 ID : **48180424840**

Status : **Answered**

Chosen Option : **2**

Q.99 Arrange the following loads of a CMOS cascode amplifier in the increasing order of output voltage swing .
(Assume all the transistors operating with the same overdrive voltage V_{ov}).

- A. Simple current source load
- B. Simple cascode current source load
- C. Low voltage cascode current source load
- D. Ideal current source load

Choose the **correct** answer from the options given below:

1. A, B, C, D
2. C, A, B, D
3. D, C, B, A
4. B, C, A, D

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046388**

Option 1 ID : **48180424877**

Option 2 ID : **48180424878**

Option 3 ID : **48180424879**

Option 4 ID : **48180424880**

Status : **Answered**

Chosen Option : **2**

Q.100 Which of the following statements are correct?

- A. Phase locked loops can be used for frequency synthesis.
- B. Astable multivibrators generate free running waveform.
- C. Second order low-pass filter has a gain roll-off of 60 dB/decade
- D. A voltage-to-frequency converter is an integral part of PLL.
- E. XOR gate can be used as phase frequency detector (PFD)

Choose the **correct** answer from the options given below:

- 1. A, C and E Only
- 2. A, B and D Only
- 3. A, D and E Only
- 4. B, C and D Only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046402**

Option 1 ID : **48180424933**

Option 2 ID : **48180424934**

Option 3 ID : **48180424935**

Option 4 ID : **48180424936**

Status : **Answered**

Chosen Option : **3**

Q.101 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	Dynamic hazards	I.	synchronous sequential circuit
B.	Set-up time violation	II.	bi-stable circuit
C.	semiconductor memories	III.	combinational circuit
D.	Demultiplexer	IV.	asynchronous sequential circuit

Choose the **correct** answer from the options given below:

- 1. A-IV, B-I, C-II, D-III
- 2. A-III, B-I, C-IV, D-II
- 3. A-I, B-IV, C-III, D-II
- 4. A-II, B-III, C-IV, D-I

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046426**

Option 1 ID : **48180425029**

Option 2 ID : **48180425030**

Option 3 ID : **48180425031**

Option 4 ID : **48180425032**

Status : **Answered**

Chosen Option : **3**

Q.102 Minimum number of logic gates required for NAND only implementation of the function $F = A \cdot B + C \cdot D$ is

1. 6
2. 5
3. 4
4. 3

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046361**

Option 1 ID : **48180424769**

Option 2 ID : **48180424770**

Option 3 ID : **48180424771**

Option 4 ID : **48180424772**

Status : **Answered**

Chosen Option : **4**

Q.103 Which of the following parameters are associated with Antenna

- A. Gain
- B. Modulation Index
- C. Cross-Polarization
- D. Balanced Modulator
- E. Directivity

Choose the **correct** answer from the options given below:

1. B, C, D Only
2. C, D, E Only
3. A, C, E Only
4. B, D, E Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046405**

Option 1 ID : **48180424945**

Option 2 ID : **48180424946**

Option 3 ID : **48180424947**

Option 4 ID : **48180424948**

Status : **Answered**

Chosen Option : **4**

Q.104 For an ideal photodiode ($\eta = 1$), the responsivity (R) is equal to:

1. $\frac{\lambda}{2.14}(A/W)$
2. $\frac{2.14}{\lambda}(A/W)$
3. $\frac{\lambda}{1.24}(A/W)$
4. $\frac{1.24}{\lambda}(A/W)$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046372**

Option 1 ID : **48180424813**

Option 2 ID : **48180424814**

Option 3 ID : **48180424815**

Option 4 ID : **48180424816**

Status : **Answered**

Chosen Option : **2**

Q.105 To generate pulse code modulation (PCM), which of the following blocks are required

- A. Lowpass filter (LPF)
- B. Sampler
- C. Integrator
- D. Phase Shifter
- E. Quantizer

Choose the **correct** answer from the options given below:

1. B, C, D Only
2. C, D, E Only
3. A, C, D Only
4. A, B, E Only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046416**

Option 1 ID : **48180424989**

Option 2 ID : **48180424990**

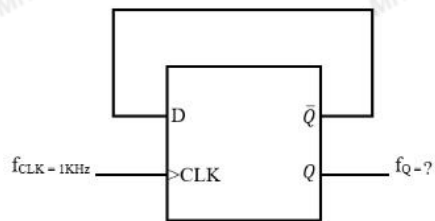
Option 3 ID : **48180424991**

Option 4 ID : **48180424992**

Status : **Answered**

Chosen Option : **1**

Q.106 The frequency of the waveform obtained at Q output in the following circuit is



1. 2 KHz
2. 0.5 KHz
3. 1.5 KHz
4. 2.5 KHz

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046362**

Option 1 ID : **48180424773**

Option 2 ID : **48180424774**

Option 3 ID : **48180424775**

Option 4 ID : **48180424776**

Status : **Answered**

Chosen Option : **3**

Q.107 Which of the following is the most prevalent lithography technique for mask making?

1. EUV lithography
2. Ion lithography
3. Electron beam lithography
4. X-ray lithography

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046349**

Option 1 ID : **48180424721**

Option 2 ID : **48180424722**

Option 3 ID : **48180424723**

Option 4 ID : **48180424724**

Status : **Answered**

Chosen Option : **3**

Q.108 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	COOLMOS	I.	PUT
B.	$V_{BR1} = V_{BR2} \pm 0.1 V_{BR2}$	II.	DIAC
C.	$e_g = k_v \cdot \omega \cdot i_f$	III.	Power Transistor
D.	$V_P = \eta V_{BB} + V_D$	IV.	DC motor

Choose the **correct** answer from the options given below:

1. A-III, B-II, C-IV, D-I
2. A-III, B-IV, C-II, D-I
3. A-II, B-I, C-III, D-IV
4. A-I, B-II, C-IV, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046431**

Option 1 ID : **48180425049**

Option 2 ID : **48180425050**

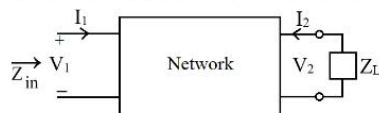
Option 3 ID : **48180425051**

Option 4 ID : **48180425052**

Status : **Answered**

Chosen Option : **2**

Q.109 The input impedance of a two port network in terms of transmission parameters in figure below is



1. $Z_{in} = \frac{A + BZ_L}{C + DZ_L}$
2. $Z_{in} = \frac{AZ_L + C}{BZ_L + D}$
3. $Z_{in} = \frac{A + CZ_L}{B + DZ_L}$
4. $Z_{in} = \frac{AZ_L + B}{CZ_L + D}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046355**

Option 1 ID : **48180424745**

Option 2 ID : **48180424746**

Option 3 ID : **48180424747**

Option 4 ID : **48180424748**

Status : **Answered**

Chosen Option : **2**

Q.110 To determine the frequency from any Lissajous figure:

1. Count the number of horizontal loops in the pattern, divide it by the number of vertical loops and multiply this quantity by the known standard frequency.
2. Count the number of vertical loops in the pattern, divide it by the number of horizontal loops and multiply this quantity by the known standard frequency.
3. Count the number of horizontal loops in the pattern, divide it by the number of vertical loops and divide this quantity by the known standard frequency.
4. Count the number of vertical loops in the pattern, divide it by the number of horizontal loops and divide this quantity by the known standard frequency.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046381**

Option 1 ID : **48180424849**

Option 2 ID : **48180424850**

Option 3 ID : **48180424851**

Option 4 ID : **48180424852**

Status : **Answered**

Chosen Option : **4**

Q.111 In thermocouples, arrange the following materials with descending order of highest temperature measured (°C).

- A. Iron / Constantan
- B. Chromel / Alumel
- C. Copper / Constantan
- D. Chromel / Constantan

Choose the **correct** answer from the options given below:

1. D, B, C, A
2. C, D, B, A
3. A, B, C, D
4. B, A, D, C

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046398**

Option 1 ID : **48180424917**

Option 2 ID : **48180424918**

Option 3 ID : **48180424919**

Option 4 ID : **48180424920**

Status : **Answered**

Chosen Option : **2**

Q.112 Chose the correct option in the context of resources available on the 8051 microcontroller chip

1. 128 byte RAM, 4 Timers, 6 Interrupts, 8K ROM
2. 256 byte RAM, 2 Timers, 4 Interrupts, 4K ROM
3. 128 byte RAM, 2 Timers, 6 Interrupts, 4K ROM
4. 256 byte RAM, 4 Timers, 6 Interrupts, 8K ROM

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046364**

Option 1 ID : **48180424781**

Option 2 ID : **48180424782**

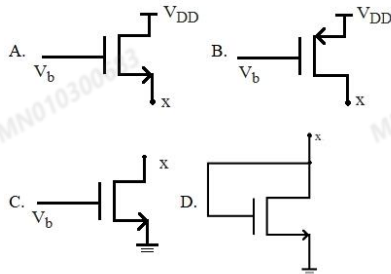
Option 3 ID : **48180424783**

Option 4 ID : **48180424784**

Status : **Answered**

Chosen Option : **1**

Q.113 Which of the following MOSFET configurations can be used as a current source? Assume V_b and V_{DD} are fixed.



Choose the **correct** answer from the options given below:

1. A, B and C Only
2. C and D Only
3. B and C Only
4. A and D Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046412**

Option 1 ID : **48180424973**

Option 2 ID : **48180424974**

Option 3 ID : **48180424975**

Option 4 ID : **48180424976**

Status : **Answered**

Chosen Option : **2**

Q.114 Match the LIST-I with LIST-II

LIST-I	LIST-II
A. Discrete time unit step $u[n]$	I. $\frac{1}{2} [f[n] + f[-n]]$
B. Discrete time unit impulse $\delta[n]$	II. $u[n] - u[n-1]$
C. Discrete time even function	III. $\sum_{m=-\infty}^n \delta[m]$
D. Discrete time odd function	IV. $\frac{1}{2} [f[n] - f[-n]]$

Choose the **correct** answer from the options given below:

1. A-III, B-II, C-I, D-IV
2. A-II, B-III, C-I, D-IV
3. A-III, B-II, C-IV, D-I
4. A-IV, B-I, C-II, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046422**

Option 1 ID : **48180425013**

Option 2 ID : **48180425014**

Option 3 ID : **48180425015**

Option 4 ID : **48180425016**

Status : **Answered**

Chosen Option : **2**

Q.115 In an optic fibre, the refractive index of core, $\mu_1 = 1.55$ and refractive index of cladding, $\mu_2 = 1.5$, what are the values of numerical aperture (NA) and acceptance angle (θ_o)

1. NA = 0.494, $\theta_o = 46^\circ$
2. NA = 0.494, $\theta_o = 23.2^\circ$
3. NA = 0.394, $\theta_o = 23.2^\circ$
4. NA = 0.394, $\theta_o = 46^\circ$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046373**

Option 1 ID : **48180424817**

Option 2 ID : **48180424818**

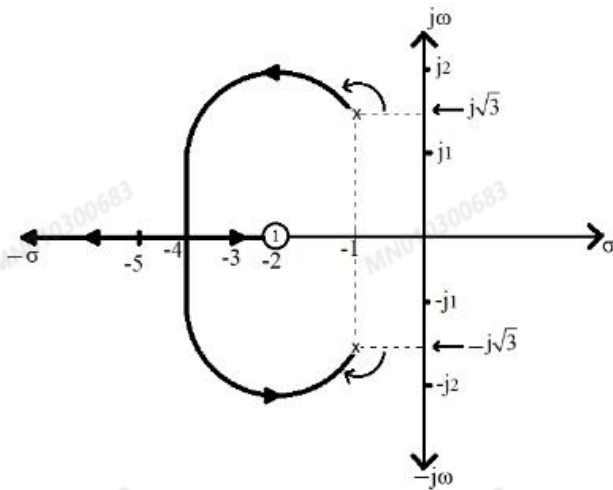
Option 3 ID : **48180424819**

Option 4 ID : **48180424820**

Status : **Answered**

Chosen Option : **1**

Q.116 In a system with given root locus for open-loop transfer function.



- A. Number of loci is 3.
- B. Number of loci at ∞ is 1.
- C. Number of asymptotes are 1.
- D. Angle of departure is 150° .
- E. Centroid lies at $S = -4$

Choose the **correct** answer from the options given below:

- 1. A, B and C Only
- 2. B, C and D Only
- 3. B, C and E Only
- 4. A, C and E Only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 4818046407

Option 1 ID : 48180424953

Option 2 ID : 48180424954

Option 3 ID : 48180424955

Option 4 ID : 48180424956

Status : Answered

Chosen Option : 4

Q.117 Arrange the following layers of vertical cavity surface emitting LASER (VCSEL) from bottom to top:

- A. n^+ - Substrate
- B. p^+ - DBR
- C. Active region (Multiple quantum wells)
- D. n^+ - DBR

Choose the **correct** answer from the options given below:

- 1. A, D, C, B
- 2. A, D, B, C
- 3. C, A, D, B
- 4. C, A, B, D

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046395**

Option 1 ID : **48180424905**

Option 2 ID : **48180424906**

Option 3 ID : **48180424907**

Option 4 ID : **48180424908**

Status : **Answered**

Chosen Option : **3**

Q.118 Which of the following Boolean equations can be implemented using 2-to-1 multiplexers?

- A. $F = A \oplus B$
- B. $F = A \cdot \overline{B} + C \cdot B$
- C. $F = \overline{A+B}$
- D. $F = A \cdot \overline{B}$
- E. $Q_{n+1} = Q_n \cdot \overline{E_n} + D \cdot E_n$

Choose the **correct** answer from the options given below:

- 1. B Only
- 2. B, C and D Only
- 3. A, B, C and D Only
- 4. A, B, C, D and E

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046413**

Option 1 ID : **48180424977**

Option 2 ID : **48180424978**

Option 3 ID : **48180424979**

Option 4 ID : **48180424980**

Status : **Answered**

Chosen Option : **3**

Q.119 Which of the following process steps is most likely to cause isotropic etching?

1. Chemical Mechanical Polishing (CMP)
2. Wet Chemical Etching
3. Ion-Enhanced Chemical Etching
4. Purely Physical Plasma Etching

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046351**

Option 1 ID : **48180424729**

Option 2 ID : **48180424730**

Option 3 ID : **48180424731**

Option 4 ID : **48180424732**

Status : **Answered**

Chosen Option : **2**

Q.120 Which of the following statements are correct?

- A. Limited source diffusion results into Gaussian distribution profile
- B. Constant source diffusion results into Error function distribution profile
- C. Ion implantation results into Error function distribution profile
- D. Ion implantation results into Gaussian distribution profile
- E. Limited source diffusion results into Error function distribution profile

Choose the **correct** answer from the options given below:

1. A, B and D Only
2. A and C Only
3. A and D Only
4. C and E Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046400**

Option 1 ID : **48180424925**

Option 2 ID : **48180424926**

Option 3 ID : **48180424927**

Option 4 ID : **48180424928**

Status : **Answered**

Chosen Option : **2**

Q.121 In 8051 microcontroller, what will be the content of Accumulate (A) register and CY flag status after the execution of the following instructions?

CLR C

MOV A, #3FH

MOV R3, #23H

SUBB A, R3

1. A = 2C, CY = 0
2. A = 1C, CY = 1
3. A = 2C, CY = 1
4. A = 1C, CY = 0

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046366**

Option 1 ID : **48180424789**

Option 2 ID : **48180424790**

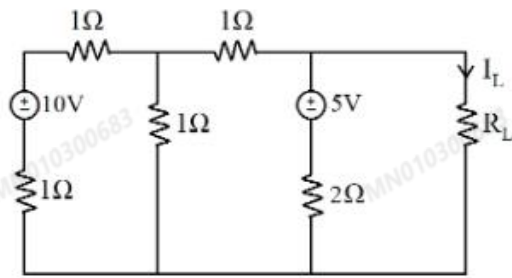
Option 3 ID : **48180424791**

Option 4 ID : **48180424792**

Status : **Answered**

Chosen Option : **2**

Q.122 The current in the resistance $R_L = 2\Omega$ in the given network is



1. 3.25 A

2. 1.41 A

3. 2.50 A

4. 0.25 A

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046353

Option 1 ID : 48180424737

Option 2 ID : 48180424738

Option 3 ID : 48180424739

Option 4 ID : 48180424740

Status : Answered

Chosen Option : 1

Q.123 In a rectangular wave guide for which $a = 1.5 \text{ cm}$, $b = 0.8 \text{ cm}$, $\sigma = 0$, $\mu = \mu_0$ and $\epsilon = 9\epsilon_0$

$$H_x = 2 \sin\left(\frac{\pi x}{a}\right) \cos\left(\frac{3\pi y}{b}\right) \sin(\pi \times 10^{11} t - \beta z) \text{ A/m}$$

Determine the cut-off frequency (f_c)

1. 37.25 GHz
2. 28.57 GHz
3. 19.05 GHz
4. 12.85 GHz

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046369**

Option 1 ID : **48180424801**

Option 2 ID : **48180424802**

Option 3 ID : **48180424803**

Option 4 ID : **48180424804**

Status : **Answered**

Chosen Option : **4**

Q.124 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A. Schottky diode		I. Voltage regulator	
B. Tunnel diode		II. High Speed Switch	
C. Zener diode		III. Voltage tuning of an LC resonator circuit	
D. Varactor diode		IV. use in low voltage and high current rectifier circuit	

Choose the **correct** answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-IV, B-II, C-III, D-I
3. A-III, B-II, C-IV, D-I
4. A-IV, B-II, C-I, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046419**

Option 1 ID : **48180425001**

Option 2 ID : **48180425002**

Option 3 ID : **48180425003**

Option 4 ID : **48180425004**

Status : **Answered**

Chosen Option : **2**

Q.125 Which of the following statements are correct?

A. The electron concentration in intrinsic semiconductor under thermal equilibrium is

$$n_0 = N_c \exp \left[\frac{-(E_c - E_{fi})}{KT} \right]$$

B. Tunnel diode is a degenerately doped diode

C. Fill factor of solar cell is $FF = \frac{I_{sc} \cdot V_{oc}}{V_m \cdot I_m}$

D. In a Schottky barrier diode, a rectifying contact is achieved for the metal-n-type semiconductor contact if metal work function (Φ_m) is less than semiconductor work function (Φ_s)

E. The diffusion capacitance of diode is $C_D = \frac{C(0)}{\left(1 + \left|\frac{V_R}{V_K}\right|\right)^n}$

Choose the **correct** answer from the options given below:

1. A and E Only
2. D and E Only
3. A and B Only
4. B and C Only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046399**

Option 1 ID : **48180424921**

Option 2 ID : **48180424922**

Option 3 ID : **48180424923**

Option 4 ID : **48180424924**

Status : **Answered**

Chosen Option : **1**

Q.126 A carrier is frequency modulated by $m(t) = A_m \sin(\omega_m t)$ with frequency modulation sensitivity constant K_f . The resulting modulation index is β_f . The same carrier is phase modulated by $m(t)$ with phase modulation sensitivity constant K_p . The resulting modulation index is β_p . Obtain the relation between K_f and K_p so that $\beta_f = \beta_p$

1. $\frac{K_f}{K_p} = \frac{1}{\omega_m^2}$

2. $\frac{K_f}{K_p} = \omega_m$

3. $\frac{K_f}{K_p} = \frac{1}{\omega_m}$

4. $\frac{K_f}{K_p} = 2\omega_m$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046374**

Option 1 ID : **48180424821**

Option 2 ID : **48180424822**

Option 3 ID : **48180424823**

Option 4 ID : **48180424824**

Status : **Answered**

Chosen Option : **1**

Q.127 M1 and M0 are the mode select bits in a TMOD register.

- A. Mode 0 is a 13 bit timer mode
- B. Mode 1 is a 8 bit auto reload timer / counter
- C. Mode 0 is a 16 bit timer mode
- D. Mode 2 is a 8 bit auto reload timer / counter.
- E. Mode 1 is a 16 bit timer mode

Choose the **correct** answer from the options given below:

- 1. A, D, E Only
- 2. A, B, D Only
- 3. B, C Only
- 4. A, B Only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046414**

Option 1 ID : **48180424981**

Option 2 ID : **48180424982**

Option 3 ID : **48180424983**

Option 4 ID : **48180424984**

Status : **Answered**

Chosen Option : **2**

Q.128 Match the LIST-I with LIST-II

LIST-I	LIST-II
A. Free space	I. $\sigma \simeq 0$, $\epsilon = \epsilon_r \epsilon_0$, $\mu = \mu_r \mu_0$, or $\sigma \ll \omega \epsilon$
B. Lossless dielectrics	II. $\sigma \simeq \infty$, $\epsilon = \epsilon_0$, $\mu = \mu_r \mu_0$, or $\sigma \gg \omega \epsilon$
C. Lossy dielectrics	III. $\sigma \neq 0$, $\epsilon = \epsilon_r \epsilon_0$, $\mu = \mu_r \mu_0$
D. Good conductors	IV. $\sigma = 0$, $\epsilon = \epsilon_0$, $\mu = \mu_0$

Choose the **correct** answer from the options given below:

1. A-IV, B-I, C-III, D-II
2. A-I, B-II, C-III, D-IV
3. A-I, B-IV, C-III, D-II
4. A-II, B-IV, C-I, D-III

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046428**

Option 1 ID : **48180425037**

Option 2 ID : **48180425038**

Option 3 ID : **48180425039**

Option 4 ID : **48180425040**

Status : **Answered**

Chosen Option : **3**

Q.129 Arrange the following material and device structure innovations in chronological order.

- A. Gate all around (GAA) FET
- B. High-K metal gate
- C. Strained silicon
- D. FinFET

Choose the **correct** answer from the options given below:

1. C, B, D, A
2. D, A, C, B
3. D, A, B, C
4. B, C, D, A

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046386**

Option 1 ID : **48180424869**

Option 2 ID : **48180424870**

Option 3 ID : **48180424871**

Option 4 ID : **48180424872**

Status : **Answered**

Chosen Option : **3**

Q.130 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	Hertzian Dipole Antenna	I.	$R_{\text{rad}} = \frac{320 \pi^4 s^2}{\lambda^4}$
B.	Half wave Dipole Antenna	II.	$R_{\text{rad}} = 80 \pi^2 \left(\frac{d\ell}{\lambda}\right)^2$
C.	Quarter wave monopole Antenna	III.	$R_{\text{rad}} \approx 36 \cdot 5 \Omega$
D.	Small loop Antenna	IV.	$R_{\text{rad}} = 73 \Omega$

Choose the **correct** answer from the options given below:

1. A-IV, B-III, C-II, D-I
2. A-II, B-IV, C-III, D-I
3. A-I, B-II, C-III, D-IV
4. A-II, B-I, C-III, D-IV

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046429**

Option 1 ID : **48180425041**

Option 2 ID : **48180425042**

Option 3 ID : **48180425043**

Option 4 ID : **48180425044**

Status : **Answered**

Chosen Option : **4**

Q.131 Arrange the following components of two cavity klystron amplifier from input to output.

- A. Catcher cavity
- B. Buncher cavity
- C. Cathode
- D. Anode
- E. Collector

Choose the **correct** answer from the options given below:

1. C, A, D, B, E
2. C, D, B, A, E
3. E, D, C, B, A
4. A, B, C, D, E

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046393**

Option 1 ID : **48180424897**

Option 2 ID : **48180424898**

Option 3 ID : **48180424899**

Option 4 ID : **48180424900**

Status : **Answered**

Chosen Option : **1**

Q.132 Which of the following is not used as gate dielectric material in CMOS technology?

1. SiO_2
2. Si_3N_4
3. SiON
4. HfO_2

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046348**

Option 1 ID : **48180424717**

Option 2 ID : **48180424718**

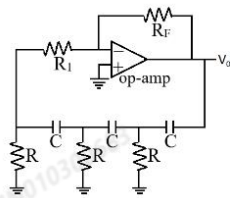
Option 3 ID : **48180424719**

Option 4 ID : **48180424720**

Status : **Answered**

Chosen Option : **3**

Q.133 In the given circuit of phase shift oscillator, the frequency of oscillation and relation between R_F and R_1 is given as



1. $f_0 = \frac{1}{2\pi\sqrt{RC}}$ and $\left|\frac{R_F}{R_1}\right| = 9$
2. $f_0 = \frac{1}{2\pi\sqrt{6 \cdot RC}}$ and $\left|\frac{R_F}{R_1}\right| = 29$
3. $f_0 = \frac{1}{2\pi\sqrt{6 \cdot RC}}$ and $\left|\frac{R_F}{R_1}\right| = 9$
4. $f_0 = \frac{1}{2\pi\sqrt{6RC}}$ and $\left|\frac{R_F}{R_1}\right| = 29$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046357**

Option 1 ID : **48180424753**

Option 2 ID : **48180424754**

Option 3 ID : **48180424755**

Option 4 ID : **48180424756**

Status : **Answered**

Chosen Option : **4**

Q.134 The closed loop transfer function of a system is:

$$\frac{C(s)}{R(s)} = \frac{K}{s(s^2 + s + 1)(s + 4) + K}$$

The range of K for which the system is stable is

1. $0 < K < \frac{84}{5}$
2. $0 < K < \frac{84}{25}$
3. $1 < K < \frac{84}{5}$
4. $1 < K < \frac{84}{25}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046376

Option 1 ID : 48180424829

Option 2 ID : 48180424830

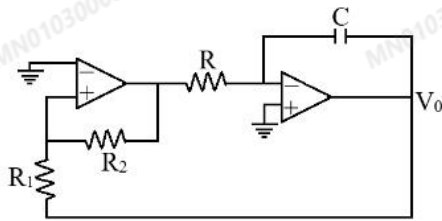
Option 3 ID : 48180424831

Option 4 ID : 48180424832

Status : Answered

Chosen Option : 3

Q.135 The output frequency of a triangular wave generator circuit as shown below is



1. $f = \frac{R_1 R_2}{4RC}$
2. $f = \frac{R_2}{4R_1 RC}$
3. $f = \frac{4R_1 R_2}{RC}$
4. $f = \frac{4RC}{R_1 R_2}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046356**

Option 1 ID : **48180424749**

Option 2 ID : **48180424750**

Option 3 ID : **48180424751**

Option 4 ID : **48180424752**

Status : **Answered**

Chosen Option : **1**

Q.136 Which of following semiconductors for LED gives the lowest wavelength of emission?

1. AlGaAs
2. InAlGaP
3. InGaN
4. GaAsP

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046344**

Option 1 ID : **48180424701**

Option 2 ID : **48180424702**

Option 3 ID : **48180424703**

Option 4 ID : **48180424704**

Status : **Answered**

Chosen Option : **3**

Q.137 A signal $x(t)$ is described below,

$$x(t) = \left(\frac{3}{2}\right) \cos(190 \times 10^3 \pi t) + 5 \cos(200 \times 10^3 \pi t) + \left(\frac{3}{2}\right) \cos(210 \times 10^3 \pi t)$$

Determine the ratio P_s / P_c where P_s is the power in side bands and P_c is the power in the carrier

1. 0.66
2. 0.50
3. 0.18
4. 0.70

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046375**

Option 1 ID : **48180424825**

Option 2 ID : **48180424826**

Option 3 ID : **48180424827**

Option 4 ID : **48180424828**

Status : **Answered**

Chosen Option : **2**

Q.138 Match the LIST-I with LIST-II

LIST-I		LIST-II	
A.	Common emitter amplifier	I.	Voltage gain less than unity
B.	Common Collector amplifier	II.	High input resistance
C.	Common base amplifier	III.	Low input resistance
D.	Common emitter amplifier with emitter resistance R_E	IV.	Low nonlinear distortion

Choose the **correct** answer from the options given below:

1. A-II, B-III, C-I, D-IV
2. A-II, B-I, C-III, D-IV
3. A-III, B-I, C-II, D-IV
4. A-IV, B-III, C-I, D-II

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046424**

Option 1 ID : **48180425021**

Option 2 ID : **48180425022**

Option 3 ID : **48180425023**

Option 4 ID : **48180425024**

Status : **Answered**

Chosen Option : **2**

Q.139 In superheterodyne receiver, arrange the following functional blocks from beginning to end

- A. Mixer
- B. Detector
- C. IF amplifier
- D. RF amplifier

Choose the **correct** answer from the options given below:

- 1. A, B, C, D
- 2. D, C, B, A
- 3. C, D, A, B
- 4. D, A, C, B

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046394**

Option 1 ID : **48180424901**

Option 2 ID : **48180424902**

Option 3 ID : **48180424903**

Option 4 ID : **48180424904**

Status : **Answered**

Chosen Option : **2**

Q.140 The size of the transformer is reduced in:

- 1. Switched-mode AC power supplies
- 2. Resonant AC Power supplies
- 3. Bidirectional AC Power supplies
- 4. Switched-mode and Resonant AC power supplies

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **4818046379**

Option 1 ID : **48180424841**

Option 2 ID : **48180424842**

Option 3 ID : **48180424843**

Option 4 ID : **48180424844**

Status : **Answered**

Chosen Option : **2**

Comprehension:

The word 'communicate' refers to pass on and the act of 'communicating' termed as communication. Based on technology, communication can be classified as analog and digital communication. To transmit a message signal from transmitter to receiver needs a communication system which consists of information source, transmitter, channel, noise source and receiver. Example of some communication systems are mobile communication, radio and television broadcasting etc. A low frequency message signal can not be transmitted over a larger distance, hence it needs modulation techniques such as AM, FM, PM in analog modulation schemes and ASK, FSK, PSK, QPSK, MSK etc. in digital communication one. We need demodulation technique at the receiver to extract the original message signal.

SubQuestion No : 141

Q.141 Let the carrier voltage (V_c) and modulating voltage (V_m), be represented by $V_c = A_c \sin \omega_c t$ and $V_m = A_m \sin \omega_m t$, respectively.

The correct expression for the modulation index (m) is _____

1. $m = \frac{A_c}{A_m}$

2. $m = \frac{A_m}{A_c}$

3. $m = \frac{A_c^2}{A_m^2}$

4. $m = \frac{1}{A_c}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **4818046437**

Option 1 ID : **48180425069**

Option 2 ID : **48180425070**

Option 3 ID : **48180425071**

Option 4 ID : **48180425072**

Status : **Answered**

Chosen Option : **1**

Comprehension:

The word 'communicate' refers to pass on and the act of 'communicating' termed as communication. Based on technology, communication can be classified as analog and digital communication. To transmit a message signal from transmitter to receiver needs a communication system which consists of information source, transmitter, channel, noise source and receiver. Example of some communication systems are mobile communication, radio and television broadcasting etc. A low frequency message signal can not be transmitted over a larger distance, hence it needs modulation techniques such as AM, FM, PM in analog modulation schemes and ASK, FSK, PSK, QPSK, MSK etc. in digital communication one. We need demodulation technique at the receiver to extract the original message signal.

SubQuestion No : 142

Q.142 In a hexagonal cellular system, the following information is provided:

D = minimum distance between centres of cells that use the same frequency band (co channels)

R = Radius of a cell

N = Number of cells in a repetitious pattern, so $\frac{D}{R} = \underline{\hspace{2cm}}$

1. 5 N
2. $\frac{1}{3N}$
3. 3N
4. $\sqrt{3N}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046439**

Option 1 ID : **48180425077**

Option 2 ID : **48180425078**

Option 3 ID : **48180425079**

Option 4 ID : **48180425080**

Status : **Answered**

Chosen Option : **2**

Comprehension:

The word 'communicate' refers to pass on and the act of 'communicating' termed as communication. Based on technology, communication can be classified as analog and digital communication. To transmit a message signal from transmitter to receiver needs a communication system which consists of information source, transmitter, channel, noise source and receiver. Example of some communication systems are mobile communication, radio and television broadcasting etc. A low frequency message signal can not be transmitted over a larger distance, hence it needs modulation techniques such as AM, FM, PM in analog modulation schemes and ASK, FSK, PSK, QPSK, MSK etc. in digital communication one. We need demodulation technique at the receiver to extract the original message signal.

SubQuestion No : 143

Q.143 _____ modulation technique is used for transmission of picture signals in television.

1. PM
2. FM
3. AM
4. VSB

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046435**

Option 1 ID : **48180425061**

Option 2 ID : **48180425062**

Option 3 ID : **48180425063**

Option 4 ID : **48180425064**

Status : **Answered**

Chosen Option : **1**

Comprehension:

The word 'communicate' refers to pass on and the act of 'communicating' termed as communication. Based on technology, communication can be classified as analog and digital communication. To transmit a message signal from transmitter to receiver needs a communication system which consists of information source, transmitter, channel, noise source and receiver. Example of some communication systems are mobile communication, radio and television broadcasting etc. A low frequency message signal can not be transmitted over a larger distance, hence it needs modulation techniques such as AM, FM, PM in analog modulation schemes and ASK, FSK, PSK, QPSK, MSK etc. in digital communication one. We need demodulation technique at the receiver to extract the original message signal.

SubQuestion No : 144

Q.144 A 400 W carrier is modulated to a depth of 75%, the total power in the amplitude modulated wave is _____

1. 512.5 W
2. 242 W
3. 378 W
4. 400 W

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046438**

Option 1 ID : **48180425073**

Option 2 ID : **48180425074**

Option 3 ID : **48180425075**

Option 4 ID : **48180425076**

Status : **Answered**

Chosen Option : **1**

Comprehension:

The word 'communicate' refers to pass on and the act of 'communicating' termed as communication. Based on technology, communication can be classified as analog and digital communication. To transmit a message signal from transmitter to receiver needs a communication system which consists of information source, transmitter, channel, noise source and receiver. Example of some communication systems are mobile communication, radio and television broadcasting etc. A low frequency message signal can not be transmitted over a larger distance, hence it needs modulation techniques such as AM, FM, PM in analog modulation schemes and ASK, FSK, PSK, QPSK, MSK etc. in digital communication one. We need demodulation technique at the receiver to extract the original message signal.

SubQuestion No : 145

Q.145 A certain transmitter radiates 9 kW with the carrier unmodulated and 10.125 kW when the carrier is sinusoidally modulated. If another sine wave is simultaneously transmitted with modulation index 0.4, determine the total radiated power.

1. 7.45 kW
2. 10.84 kW
3. 9.90 kW
4. 12.74 kW

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046436**

Option 1 ID : **48180425065**

Option 2 ID : **48180425066**

Option 3 ID : **48180425067**

Option 4 ID : **48180425068**

Status : **Answered**

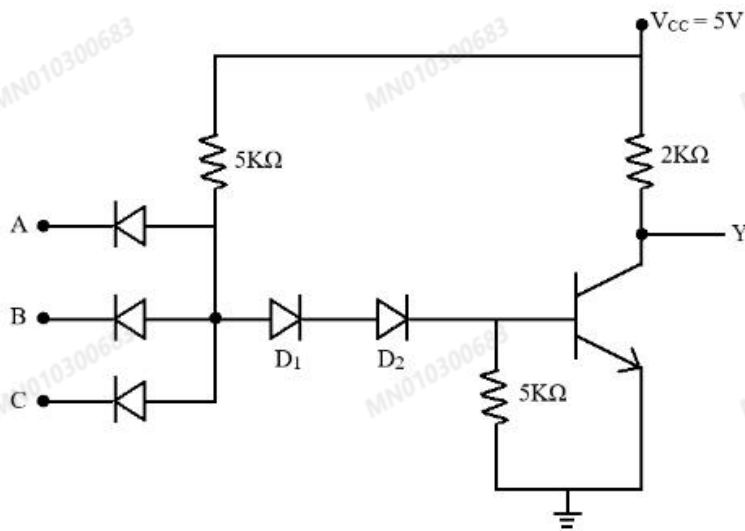
Chosen Option : **4**

Comprehension:

An integrated circuit (IC) is fabricated on a die of a silicon semiconductor crystal, called a chip, containing the electronic components connected in a specific fashion to construct digital gates. subsequently, a set of digital gates are interconnected inside a chip to form the required circuit. There are various approaches to implement basic logic functions on a chip. These approaches involve the use of electronic components such as resistors, diodes, BJTs and MOSFETs. Depending on what set of these components is used to implement logic functions, these circuits have been classified into various logic families. Therefore, logic families can be defined as electronic circuits using specific set of electronic components that implement various basic logic functions. The various IC logic families that have been developed over decades are Resistor Transistor Logic (RTL), Diode Transistor Logic (DTL), Transistor- Transistor Logic (TTL), Emitter Coupled Logic (ECL), Metal Oxide Semiconductor (MOS) and Complementary Metal Oxide Semiconductor (CMOS) families. Some of these logic families have become obsolete and have only historical perspective. On the other hand, one of these has been the work horse of the state-of-the-art IC manufacturing for nearly five decades and fueled the unprecedented growth in semiconductor industry.

SubQuestion No : 146

Q.146 What logic function is implemented by the following circuit?



1. $Y = \overline{A+B+C}$
2. $Y = \overline{A \cdot B \cdot C}$
3. $Y = A+B+C$
4. $Y = A.B.C$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046441

Option 1 ID : 48180425081

Option 2 ID : 48180425082

Option 3 ID : 48180425083

Option 4 ID : 48180425084

Status : Answered

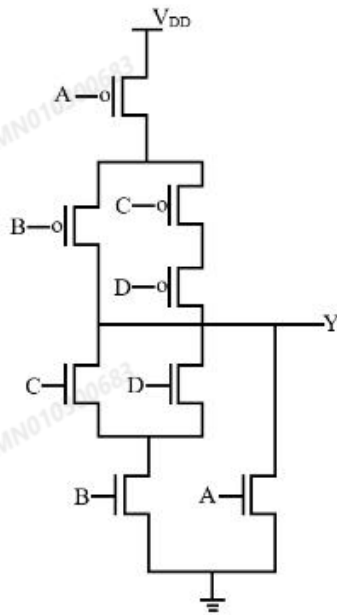
Chosen Option : 1

Comprehension:

An integrated circuit (IC) is fabricated on a die of a silicon semiconductor crystal, called a chip, containing the electronic components connected in a specific fashion to construct digital gates. subsequently, a set of digital gates are interconnected inside a chip to form the required circuit. There are various approaches to implement basic logic functions on a chip. These approaches involve the use of electronic components such as resistors, diodes, BJTs and MOSFETs. Depending on what set of these components is used to implement logic functions, these circuits have been classified into various logic families. Therefore, logic families can be defined as electronic circuits using specific set of electronic components that implement various basic logic functions. The various IC logic families that have been developed over decades are Resistor Transistor Logic (RTL), Diode Transistor Logic (DTL), Transistor- Transistor Logic (TTL), Emitter Coupled Logic (ECL), Metal Oxide Semiconductor (MOS) and Complementary Metal Oxide Semiconductor (CMOS) families. Some of these logic families have become obsolete and have only historical perspective. On the other hand, one of these has been the work horse of the state-of the-art IC manufacturing for nearly five decades and fueled the unprecedented growth in semiconductor industry.

SubQuestion No : 147

Q.147 What logic function is implemented by the given circuit?



1. $A + B \cdot (C + D)$
2. $\bar{A} \cdot (\bar{B} + \bar{C} + \bar{D})$
3. $\bar{A} \cdot (\bar{B} + C \cdot D)$
4. $(A + B) (C + D)$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 4818046444

Option 1 ID : 48180425093

Option 2 ID : 48180425094

Option 3 ID : 48180425095

Option 4 ID : 48180425096

Status : Answered

Comprehension:

An integrated circuit (IC) is fabricated on a die of a silicon semiconductor crystal, called a chip, containing the electronic components connected in a specific fashion to construct digital gates. subsequently, a set of digital gates are interconnected inside a chip to form the required circuit. There are various approaches to implement basic logic functions on a chip. These approaches involve the use of electronic components such as resistors, diodes, BJTs and MOSFETs. Depending on what set of these components is used to implement logic functions, these circuits have been classified into various logic families. Therefore, logic families can be defined as electronic circuits using specific set of electronic components that implement various basic logic functions. The various IC logic families that have been developed over decades are Resistor Transistor Logic (RTL), Diode Transistor Logic (DTL), Transistor- Transistor Logic (TTL), Emitter Coupled Logic (ECL), Metal Oxide Semiconductor (MOS) and Complementary Metal Oxide Semiconductor (CMOS) families. Some of these logic families have become obsolete and have only historical perspective. On the other hand, one of these has been the work horse of the state-of the-art IC manufacturing for nearly five decades and fueled the unprecedented growth in semiconductor industry.

SubQuestion No : 148

Q.148 The input and output voltage ranges of a standard TTL NAND gate are: $V_{OH} = 2.4 \text{ V}$, $V_{OL} = 0.4 \text{ V}$, $V_{IH} = 2 \text{ V}$ and $V_{IL} = 0.8 \text{ V}$. The high state noise margin (NM_H) of this gate is

1. 1.6 V
2. 1.2 V
3. 0.4 V
4. 2.2 V

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046443**

Option 1 ID : **48180425089**

Option 2 ID : **48180425090**

Option 3 ID : **48180425091**

Option 4 ID : **48180425092**

Status : **Answered**

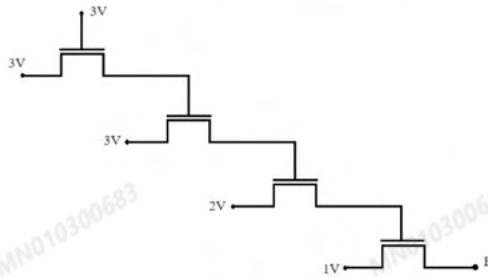
Chosen Option : **4**

Comprehension:

An integrated circuit (IC) is fabricated on a die of a silicon semiconductor crystal, called a chip, containing the electronic components connected in a specific fashion to construct digital gates. subsequently, a set of digital gates are interconnected inside a chip to form the required circuit. There are various approaches to implement basic logic functions on a chip. These approaches involve the use of electronic components such as resistors, diodes, BJTs and MOSFETs. Depending on what set of these components is used to implement logic functions, these circuits have been classified into various logic families. Therefore, logic families can be defined as electronic circuits using specific set of electronic components that implement various basic logic functions. The various IC logic families that have been developed over decades are Resistor Transistor Logic (RTL), Diode Transistor Logic (DTL), Transistor- Transistor Logic (TTL), Emitter Coupled Logic (ECL), Metal Oxide Semiconductor (MOS) and Complementary Metal Oxide Semiconductor (CMOS) families. Some of these logic families have become obsolete and have only historical perspective. On the other hand, one of these has been the work horse of the state-of the-art IC manufacturing for nearly five decades and fueled the unprecedented growth in semiconductor industry.

SubQuestion No : 149

Q.149 What will be the voltage (V_F) at the output node F? Assume the body bias effect is negligible and the threshold voltage of the transistors is $V_{TN} = 0.5$ V.



1. $V_F = 1$ V
2. $V_F = 1.5$ V
3. $V_F = 2$ V
4. $V_F = 2.5$ V

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046445**

Option 1 ID : **48180425097**

Option 2 ID : **48180425098**

Option 3 ID : **48180425099**

Option 4 ID : **48180425100**

Status : **Answered**

Chosen Option : **2**

Comprehension:

An integrated circuit (IC) is fabricated on a die of a silicon semiconductor crystal, called a chip, containing the electronic components connected in a specific fashion to construct digital gates. subsequently, a set of digital gates are interconnected inside a chip to form the required circuit. There are various approaches to implement basic logic functions on a chip. These approaches involve the use of electronic components such as resistors, diodes, BJTs and MOSFETs. Depending on what set of these components is used to implement logic functions, these circuits have been classified into various logic families. Therefore, logic families can be defined as electronic circuits using specific set of electronic components that implement various basic logic functions. The various IC logic families that have been developed over decades are Resistor Transistor Logic (RTL), Diode Transistor Logic (DTL), Transistor- Transistor Logic (TTL), Emitter Coupled Logic (ECL), Metal Oxide Semiconductor (MOS) and Complementary Metal Oxide Semiconductor (CMOS) families. Some of these logic families have become obsolete and have only historical perspective. On the other hand, one of these has been the work horse of the state-of the-art IC manufacturing for nearly five decades and fueled the unprecedented growth in semiconductor industry.

SubQuestion No : 150

Q.150 The standard TTL gates have the following values for the current: $I_{OH} = 400 \mu A$, $I_{IH} = 40 \mu A$, $I_{OL} = 16 \text{ mA}$ and $I_{IL} = 1.6 \text{ mA}$

What is the fan-out of this gate?

1. 5
2. 40
3. 4
4. 10

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **4818046442**

Option 1 ID : **48180425085**

Option 2 ID : **48180425086**

Option 3 ID : **48180425087**

Option 4 ID : **48180425088**

Status : **Answered**

Chosen Option : **3**

Exam Summary**Electronic Science and General Paper**

Section Name	No. of Questions	Answered	Not Answered	Marked for Review	Answered & Marked for Review	Not Visited
General Paper	50	50	0	0	0	0
Electronic Science	100	100	0	0	0	0