

**Notations :**

- 1.Options shown in green color and with ✓ icon are correct.
- 2.Options shown in red color and with ✗ icon are incorrect.

**Question Paper Name :**

IIT M QUALIFIER AN EXAM QDQ1 16 Mar 2025

**Subject Name :**

2025 Mar16: IIT M AN EXAM QDQ1

**Creation Date :**

2025-03-04 11:27:32

**Duration :**

240

**Total Marks :**

190

**Display Marks:**

Yes

**Share Answer Key With Delivery Engine :**

Yes

**Actual Answer Key :**

Yes

**Calculator :**

Scientific

**Magnifying Glass Required? :**

No

**Ruler Required? :**

No

**Eraser Required? :**

No

**Scratch Pad Required? :**

No

**Rough Sketch/Notepad Required? :**

No

**Protractor Required? :**

No

**Show Watermark on Console? :**

Yes

**Highlighter :**

No

**Auto Save on Console?**

Yes

**Change Font Color :**

No

**Change Background Color :**

No

**Change Theme :**

No

**Help Button :**

No

**Show Reports :**

No

**Show Progress Bar :**

No

**Group I**

**Group Number :**

1

**Group Id :**

64065324212

**Group Maximum Duration :**

0

**Group Minimum Duration :**

90

Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	190
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No
Revisit allowed for group Instructions? :	Yes
Maximum Instruction Time :	0
Minimum Instruction Time :	0
Group Time In :	Minutes
Revisit Section :	Yes
Action on Revisit Section :	View and Edit
Navigate To Group Summary From Last Question? :	No
Disable Submit Button During Assessment? :	No
Section Selection Time? :	0
No of Optional sections to be attempted :	0

## Maths 1

Section Id :	64065381340
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	14
Number of Questions to be attempted :	14
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653174974
Question Shuffling Allowed :	No

Question Number : 1 Question Id : 6406531150457 Question Type : MCQ

**Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "QUALIFIER LEVEL : MATHEMATICS FOR DATA SCIENCE I (COMPUTER BASED EXAM)"**

**Options :**

6406533889208. ✓ YES

6406533889209. ✗ NO

**Question Number : 2 Question Id : 6406531150458 Question Type : MCQ**

**Correct Marks : 0**

Question Label : Multiple Choice Question

**Instructions:**

- There are some questions which have functions with discrete valued domains (such as day, month, year etc).
- For NAT type questions, enter only one right answer even if you get multiple answers for that particular question.
- **Notations:**
  - $\mathbb{R}$ = Set of real numbers
  - $\mathbb{Q}$ = Set of rational numbers
  - $\mathbb{Z}$ = Set of integers
  - $\mathbb{N}$ = Set of natural numbers
- The set of natural numbers includes 0.

**Options :**

6406533889210. ✓ Instructions has been mentioned above.

6406533889211. ✗ This Instructions is just for a reference & not for an evaluation.

**Sub-Section Number :**

2

**Sub-Section Id :**

640653174975

**Question Shuffling Allowed :**

Yes

**Question Number : 3 Question Id : 6406531150459 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

Consider a relation R defined on the set  $A = \{4, 6, 8, 10, 12\}$  as  $R = \{(x, y) : y = x + 2\}$ . Which among the following is(are) correct?

**Options :**

6406533889212. ✓ R is neither reflexive nor transitive.

6406533889213. ✗ R is a symmetric relation.

6406533889214. ✖ R is an identity relation.

6406533889215. ✖ R is an equivalence relation

**Question Number : 4 Question Id : 6406531150460 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

If  $\alpha$  and  $\beta$  are the roots of the equation  $x^2 + 4x + 1 = 0$ , then the equation whose roots are  $\alpha^2$  and  $\beta^2$  is:

**Options :**

6406533889216. ✔  $x^2 - 14x + 1 = 0$

6406533889217. ✖  $x^2 - 18x + 16 = 0$

6406533889218. ✖  $x^2 - 10x + 2 = 0$

6406533889219. ✖  $x^2 - 8x + 5 = 0$

**Question Number : 5 Question Id : 6406531150461 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

Consider the polynomials  $p(x) = x^5 - 3x^2 + 100x - 1$  and  $q(x) = x^5 + x + 5$  then which of the following statements are correct?

**Options :**

6406533889220. ✖  $p(x) + q(x) \rightarrow \infty$  as  $x \rightarrow -\infty$ .

6406533889221. ✔  $p(x) - q(x) \rightarrow -\infty$  as  $x \rightarrow \infty$ .

6406533889222. ✖  $5p(x) \rightarrow \infty$  as  $x \rightarrow -\infty$ .

6406533889223. ✖  $\frac{1}{2}q(x) \rightarrow \infty$  as  $x \rightarrow -\infty$ .

**Sub-Section Number :**

3

**Sub-Section Id :**

640653174976

**Question Shuffling Allowed :**

Yes

**Question Number : 6 Question Id : 6406531150462 Question Type : MSQ**

**Correct Marks : 4 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Suppose  $A = \{a, b, c, d\}$  is set. Consider the following relations on  $A$ .

- $R_1 = \{(a, a), (a, b), (b, c)\}$
- $R_2 = \{(a, a), (b, b), (c, c), (d, d)\}$
- $R_3 = \{(a, b), (b, a), (a, a), (c, c)\}$
- $R_4 = \{(a, b), (b, c), (c, d), (d, a)\}$

Which of the following statement(s) is(are) correct?

Options :

6406533889224. ✖  $R_2, R_3$ , and  $R_4$  are functions.

6406533889225. ✔  $R_2$  and  $R_4$  are functions.

6406533889226. ✔  $R_2$  is an injective function.

6406533889227. ✖  $R_3$  is a bijective function.

Question Number : 7 Question Id : 6406531150463 Question Type : MSQ

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following options is/are true?

Options :

6406533889228. ✔ If three points in the coordinate plane are not collinear, then the area of the triangle formed by these three points is never zero.

6406533889229. ✔ Slope of a quadratic function at a point can be zero.

6406533889230. ✖ A polynomial of degree  $n$  have  $n$  number of distinct roots.

6406533889231. ✖ If  $R$  is a reflexive relation on a set  $S$ , then  $R$  is also a transitive relation.

Question Number : 8 Question Id : 6406531150464 Question Type : MSQ

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

The value of a quadratic function  $f(x)$  increases over the interval  $(-\infty, -1)$  and decreases over the interval  $(-1, \infty)$ . Also,  $f(0) = 20$ . Suppose the quadratic function is  $f(x) = ax^2 + bx + c$ . Then Which of the following statements is/are true?

Options :

6406533889232. ✔  $a < 0$

6406533889233. ✖ Y-intercept of the function is -1.

6406533889234. ✔ The axis of symmetry of  $f(x)$  is  $x = -1$ .

6406533889235. ✖ The slope function  $s(x)$  is  $s(x) = 2a(x - 1)$ .

**Sub-Section Number :** 4  
**Sub-Section Id :** 640653174977  
**Question Shuffling Allowed :** Yes

**Question Number : 9 Question Id : 6406531150465 Question Type : MSQ**  
**Correct Marks : 5 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Which among the following functions first increases and then decreases in all the intervals  $(-4, -3)$  and  $(-1, 2)$  and  $(5, 6)$ .

**Options :**

6406533889236. ✔  $\frac{1}{10000}(x + 1)^2(x - 2)(x + 3)^2(x + 4)(x - 5)(x - 6)^2$

6406533889237. ✔  $\frac{-1}{10000}(x + 1)^2(x - 2)(x + 3)^2(x + 4)^2(5 - x)^2(x - 6)^2(3 - x)$

6406533889238. ✖  $\frac{1}{10000}(x + 1)^2(x - 2)(x + 3)(x + 4)(x - 5)^2(x - 6)^2(x + 7)$

6406533889239. ✖  $\frac{1}{10000}(x + 1)^2(x - 2)(x + 3)(x + 4)(x - 5)^2(x - 6)^2(x + 7)^2$

**Sub-Section Number :** 5  
**Sub-Section Id :** 640653174978  
**Question Shuffling Allowed :** Yes

**Question Number : 10 Question Id : 6406531150466 Question Type : SA**  
**Correct Marks : 4**

Question Label : Short Answer Question

In a college of 500 students, 285 took Mathematics, 195 took Statistics, 115 took English, 70 took Mathematics and Statistics, 45 took Mathematics and English, 50 took Statistics and English, and 10 took all three courses. What is the total number of students who took none of these three subjects?

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

60

**Question Number : 11 Question Id : 6406531150467 Question Type : SA**

**Correct Marks : 4**

Question Label : Short Answer Question

A bird is flying along the straight line  $2y - 6x = 6$ . After some time an aeroplane also follows the straight line path with a slope of 2 and passes through the point  $(4, 8)$ . Let  $(\alpha, \beta)$  be the point where the bird and aeroplane can collide. Then find the value of  $\alpha + \beta$ .

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Equal**

**Text Areas : PlainText**

**Possible Answers :**

-9

**Question Number : 12 Question Id : 6406531150468 Question Type : SA**

**Correct Marks : 4**

Question Label : Short Answer Question



Consider a quadratic function  $f(x) = 2x^2 + 4x + d$ . The y- intercept of  $f(x)$  is 5. Suppose the straight line  $l(x) : y = mx + c$  passes through the minimum point of the graph of the function  $f(x)$  with a slope equal to the slope of the function  $f(x)$  at  $x = 1$ , for reference follow the Figure: M1Q1-1. find the value of  $m + c$ .

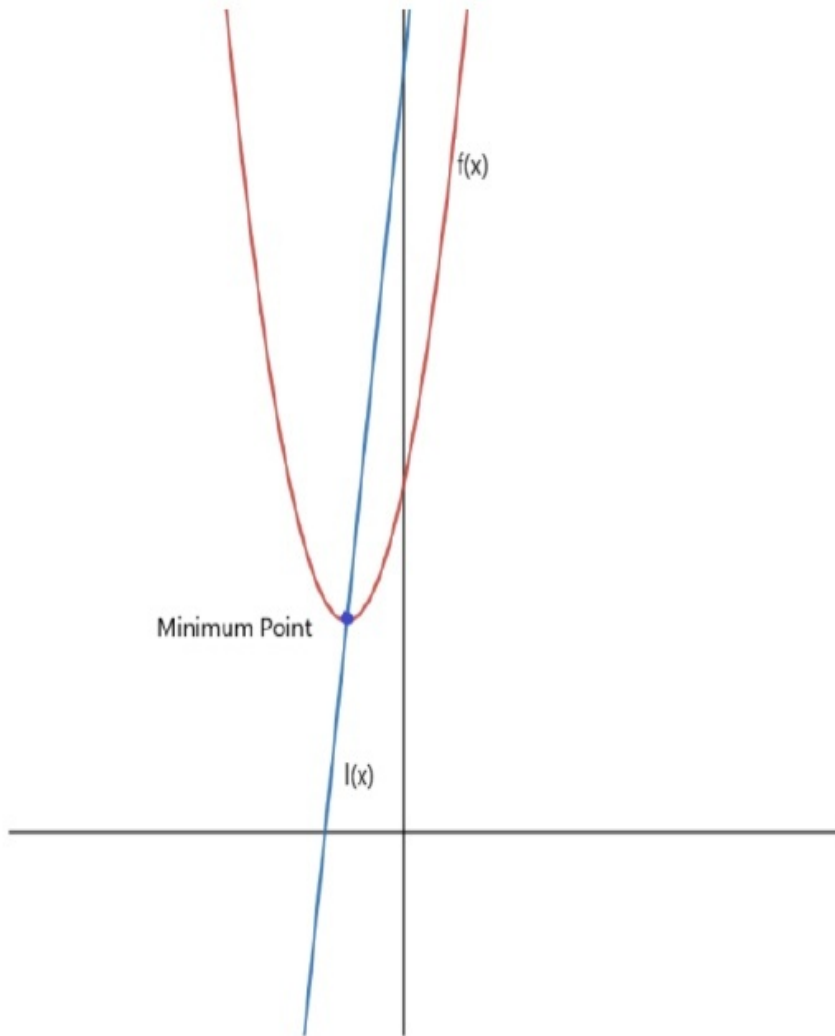


Figure: M1Q1-1

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

19

**Question Number :** 13 **Question Id :** 6406531150469 **Question Type :** SA

**Correct Marks :** 4

**Question Label :** Short Answer Question

If the slope of parabola  $y = ax^2 + bx + c$ , where  $a, b, c \in \mathbb{Z}$  at points  $(3, 2)$  and  $(2, 3)$  are 16 and 12 respectively, then find the value of  $a$ .

**Response Type :** Numeric

**Evaluation Required For SA :** Yes



Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2

Sub-Section Number : 6

Sub-Section Id : 640653174979

Question Shuffling Allowed : Yes

Question Number : 14 Question Id : 6406531150470 Question Type : SA

Correct Marks : 5

Question Label : Short Answer Question

You have been closely monitoring your bike's mileage recently. Here is a table showing two rows representing the amount paid for fuel (in currency units) and the corresponding mileage (in Km). Consider  $y$  as the amount paid and  $x$  as the corresponding mileage in Km. You noted the distance travelled each time the fuel meter falls back to a fixed reference mark and predicted that the best-fit line equation is  $y = 4x + 1$ . What will be the value of SSE with respect to the best-fit line?

Table: 1

Amount paid (in currency units)	Distance (in Km)
80	20
60	15
60	16
100	25
58	14

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

29

## English 1

Section Id : 64065381341

Section Number : 2

Section type : Online

Mandatory or Optional : Mandatory

Number of Questions : 24

Number of Questions to be attempted :	24
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653174980
Question Shuffling Allowed :	No

**Question Number : 15 Question Id : 6406531150471 Question Type : MCQ**

**Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "QUALIFIER LEVEL : ENGLISH I (COMPUTER BASED EXAM)"**

**Options :**

6406533889245. ✓ YES

6406533889246. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	640653174981
Question Shuffling Allowed :	No

**Question Id : 6406531150472 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix**

**Question Numbers : (16 to 25)**

Question Label : Comprehension

**Read the following passage and answer the given sub-questions that follow:**

Dearest Kitty,

Our entire class is quaking in its boots. The reason, of course, is the forthcoming meeting in which the teachers decide who'll move up to the next form and who'll be kept back. Half the class is making bets. G.N. and I laugh ourselves silly at the two boys behind us, C.N. and Jacques, who have staked their entire holiday savings on their bet. From morning to night, it's "You're going to pass", "No, I'm not", "Yes, you are", "No, I'm not". Even G.'s pleading glances and my angry outbursts can't calm them down. If you ask me, there are so many dummies that about a quarter of the class should be kept back, but teachers are the most unpredictable creatures on earth.

I'm not so worried about my girlfriends and myself. We'll make it. The only subject I'm not sure about is maths. Anyway, all we can do is wait. Until then, we keep telling each other not to lose heart.

I get along pretty well with all my teachers. There are nine of them, seven men and two women. Mr Keesing, the old fogey who teaches maths, was annoyed with me for ages because I talked so much. After several warnings, he assigned me extra homework. An essay on the subject, 'A Chatterbox'. A chatterbox — what can you write about that? I'd worry about that later, I decided. I jotted down the title in my notebook, tucked it in my bag and tried to keep quiet.

That evening, after I'd finished the rest of my homework, the note about the essay caught my eye. I began thinking about the subject while chewing the tip of my fountain pen. Anyone could ramble on and leave big spaces between the words, but the trick was to come up with convincing arguments to prove the necessity of talking. I thought and thought, and suddenly I had an idea. I wrote the three pages Mr Keesing had assigned me and was satisfied. I argued that talking is a student's trait and that I would do my best to keep it under control but that I would never be able to cure myself of the habit since my mother talked as much as I did if not more, and that there's not much you can do about inherited traits.

Mr Keesing had a good laugh at my arguments, but when I proceeded to talk my way through the next lesson, he assigned me a second essay. This time it was supposed to be on 'An Incurable Chatterbox'. I handed it in, and Mr Keesing had nothing to complain about for two whole lessons. However, during the third lesson he'd finally had enough. "Anne Frank, as punishment for talking in class, write an essay entitled — 'Quack, Quack, Quack, Said Mistress Chatterbox'."

(Source: From the diary of Anne Frank - Anne Frank)

### Sub questions

**Question Number : 16 Question Id : 6406531150473 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

What is the meaning of *quaking in its boots*?

**Options :**

6406533889247. ✔ To be very frightened

6406533889248. ✖ To have patience

6406533889249. ✖ To nurture an impossible hope

6406533889250. ✖ To feel very comfortable in a situation

**Question Number : 17 Question Id : 6406531150474 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Identify the antonym for the word *forthcoming*.

**Options :**

6406533889251. ✖ Imminent

6406533889252. ✖ Impending

6406533889253. ✖ Advancing

6406533889254. ✔ Recent

**Question Number : 18 Question Id : 6406531150475 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Until then, we keep telling each other not to *lose heart*. What is the meaning of *lose heart*?

**Options :**

6406533889255. ✖ To enjoy something very much

6406533889256. ✖ To be extremely happy

6406533889257. ✔ To become discouraged

6406533889258. ✖ To become extremely angry

**Question Number : 19 Question Id : 6406531150476 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Choose the correct option.

The narrator is not sure about passing which subject?

**Options :**

6406533889259. ✖ English

6406533889260. ✖ Botany

6406533889261. ✔ Maths

6406533889262. ✖ Sociology

**Question Number : 20 Question Id : 6406531150477 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Mr Keesing, the old fogey who teaches maths, was annoyed with me for ages because I talked so much. *For ages* means \_\_\_\_.

**Options :**

6406533889263. ✖ To experience a particular difficulty

6406533889264. ✖ To do something while waiting

6406533889265. ✖ To be unaware of what time it is

6406533889266. ✔ A long period of time

**Question Number : 21 Question Id : 6406531150478 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Read the passage and select true or false for the following statement:

The narrator gets assigned extra homework because she is talkative.

**Options :**

6406533889267. ✓ True

6406533889268. ✗ False

**Question Number : 22 Question Id : 6406531150479 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Select true or false for the following statement:

The antonym for *chatterbox* is blabbermouth.

**Options :**

6406533889269. ✗ True

6406533889270. ✓ False

**Question Number : 23 Question Id : 6406531150480 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

What is the meaning of the phrasal verb *ramble on*?

**Options :**

6406533889271. ✗ To promote friendly relations between people

6406533889272. ✓ To talk or write in a confused way

6406533889273. ✗ To end a conflict

6406533889274. ✗ To know someone very well

**Question Number : 24 Question Id : 6406531150481 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Select true or false for the following statement:

The phrasal verb '*kept back*' means to restrain or withhold something.

**Options :**

6406533889275. ✓ True

6406533889276. ✗ False

**Question Number : 25 Question Id : 6406531150482 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which one of the following is **NOT** the essay topic handed out to the narrator.

**Options :**

6406533889277. ✗ A Chatterbox

6406533889278. ✖ An Incorrigible Chatterbox

6406533889279. ✖ Quack, Quack, Quack, Said Mistress Chatterbox

6406533889280. ✔ A Chatty Girl

**Sub-Section Number :** 3

**Sub-Section Id :** 640653174982

**Question Shuffling Allowed :** No

**Question Id : 6406531150483 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix**

**Question Numbers : (26 to 30)**

Question Label : Comprehension

**Read the following telephone conversation and answer the given sub-questions:**

Arathi: Hello! Is this Ramila's home?

Rabiya: Hello! Hello, your voice is (i) \_\_\_\_\_.

Arathi: Hello! Is it (ii) \_\_\_\_\_ now?

Rabiya: Hello? I still cannot hear you properly.

Arathi: Let me just get out of the lift. Is it better now?

Rabiya: Yes, I can hear you now. (iii) \_\_\_\_\_?

Arathi: Hi, this is Arathi. Is this Ramila's place?

Rabiya: No this is not. Sorry, (iv) \_\_\_\_\_.

Arathi: Oh I am sorry, my bad. Sorry to disturb you.

Rabiya: (v) \_\_\_\_\_, bye.

**Sub questions**

**Question Number : 26 Question Id : 6406531150484 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which word would complete the conversation in (i)?

**Options :**

6406533889281. ✔ Jarring

6406533889282. ✖ Gorgeous

6406533889283. ✖ Musical

**Question Number : 27 Question Id : 6406531150485 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which word would complete the conversation in (ii)?

**Options :**

6406533889284. ✖ Worse

6406533889285. ✔ Better

6406533889286. ✖ Sweet

**Question Number : 28 Question Id : 6406531150486 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which expression would complete the conversation in (iii)?

**Options :**

6406533889287. ✓ Who am I speaking to, please?

6406533889288. ✗ Where are we going?

6406533889289. ✗ When will our conversation be over?

**Question Number : 29 Question Id : 6406531150487 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which expression would complete the conversation in (iv)?

**Options :**

6406533889290. ✓ I think you have got the number wrong.

6406533889291. ✗ We all support you.

6406533889292. ✗ I guess you have a beautiful voice though.

**Question Number : 30 Question Id : 6406531150488 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which expression would complete the conversation in (v)?

**Options :**

6406533889293. ✓ No problem

6406533889294. ✗ Shut up

6406533889295. ✗ Stay away

**Question Id : 6406531150489 Question Type : COMPREHENSION Sub Question Shuffling**

**Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix**

**Question Numbers : (31 to 35)**

Question Label : Comprehension



Match Column A with suitable options in Column B. (Hint: Word Collocation)

A	B
1. Land	a) Forecast
2. Moral	b) Decision
3. Final	c) Acquisition
4. Weather	d) Blow
5. Unanimous	e) Decay

Based on the above data, answer the given subquestions.

### Sub questions

**Question Number : 31 Question Id : 6406531150490 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Land \_\_\_\_

**Options :**

6406533889296. ✖ Forecast

6406533889297. ✖ Decision

6406533889298. ✔ Acquisition

6406533889299. ✖ Blow

6406533889300. ✖ Decay

**Question Number : 32 Question Id : 6406531150491 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Moral \_\_\_\_

**Options :**

6406533889301. ✖ Forecast

6406533889302. ✖ Decision

6406533889303. ✖ Acquisition

6406533889304. ✖ Blow

6406533889305. ✔ Decay

**Question Number : 33 Question Id : 6406531150492 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Final \_\_\_\_

**Options :**

- 6406533889306. ✖ Forecast
- 6406533889307. ✖ Decision
- 6406533889308. ✖ Acquisition
- 6406533889309. ✔ Blow
- 6406533889310. ✖ Decay

**Question Number : 34 Question Id : 6406531150493 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Weather \_\_\_\_

**Options :**

- 6406533889311. ✔ Forecast
- 6406533889312. ✖ Decision
- 6406533889313. ✖ Acquisition
- 6406533889314. ✖ Blow
- 6406533889315. ✖ Decay

**Question Number : 35 Question Id : 6406531150494 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Unanimous \_\_\_\_

**Options :**

- 6406533889316. ✖ Forecast
- 6406533889317. ✔ Decision
- 6406533889318. ✖ Acquisition
- 6406533889319. ✖ Blow
- 6406533889320. ✖ Decay

**Sub-Section Number :**

4

**Sub-Section Id :**

640653174983

**Question Shuffling Allowed :**

Yes

**Question Number : 36 Question Id : 6406531150495 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Advertisements are a help because they tell \_\_\_\_ about a new product.

**Options :**

- 6406533889321. ✖ We
- 6406533889322. ✖ Whom
- 6406533889323. ✔ Us

6406533889324. ✖ This

**Question Number : 37 Question Id : 6406531150496 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which sentence uses an adjective in the comparative degree?

**Options :**

6406533889325. ✖ This is a good book.

6406533889326. ✖ That was the best movie ever.

6406533889327. ✔ She's smarter than her brother.

6406533889328. ✖ He's very tall.

**Question Number : 38 Question Id : 6406531150497 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Choose the correct option.

I have not worked \_\_\_\_\_ last September.

**Options :**

6406533889329. ✖ By

6406533889330. ✔ Since

6406533889331. ✖ For

**Question Number : 39 Question Id : 6406531150498 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Identify the part of speech of the underlined word.

Dutch is the first language that I learned.

**Options :**

6406533889332. ✖ Adjective

6406533889333. ✔ Noun

6406533889334. ✖ Pronoun

6406533889335. ✖ Adverb

**Question Number : 40 Question Id : 6406531150499 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Identify the auxiliary verb in the following sentence.

*My Aunt is travelling in Ireland.*

**Options :**

6406533889336. ✖ Travelling

6406533889337. ✖ In

6406533889338. ✔ Is

6406533889339. ✖ Ireland

**Question Number : 41 Question Id : 6406531150500 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Select the appropriate option.

Aparna dances \_\_\_\_\_.

**Options :**

6406533889340. ✖ Beautiful

6406533889341. ✖ Beauty

6406533889342. ✔ Beautifully

6406533889343. ✖ Beautifuller

**Question Number : 42 Question Id : 6406531150501 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which among the following words have a vowel sound similar to that of 'pack'?

**Options :**

6406533889344. ✔ Cat

6406533889345. ✖ Bleat

6406533889346. ✖ Shear

6406533889347. ✖ Boat

**Question Number : 43 Question Id : 6406531150502 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which semi-vowel occurs in the transition between the words 'she' and 'offered' in the sentence 'she offered to help me with my assignment'?

**Options :**

6406533889348. ✖ /w/

6406533889349. ✔ /y/

**Question Number : 44 Question Id : 6406531150503 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which among the following is a word without a diphthong?

**Options :**

6406533889350. ✖ Snout

6406533889351. ✖ Stout

6406533889352. ✔ Sport

6406533889353. ✖ Shout

**Question Number : 45 Question Id : 6406531150504 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Identify the part of speech of the underlined word:

*Their fans were very disappointed after the loss in the finals.*

**Options :**

6406533889354. ✖ Noun

6406533889355. ✔ Pronoun

6406533889356. ✖ Verb

6406533889357. ✖ Conjunction

**Question Number : 46 Question Id : 6406531150505 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Choose the appropriate option.

Your watch is different \_\_\_\_\_ mine.

**Options :**

6406533889358. ✖ With

6406533889359. ✖ Than

6406533889360. ✔ From

6406533889361. ✖ To

**Question Number : 47 Question Id : 6406531150506 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Choose the appropriate option.

Let us play \_\_\_\_\_ chess.

**Options :**

6406533889362. ✖ A

6406533889363. ✖ An

6406533889364. ✖ The

6406533889365. ✓ No article

**Question Number : 48 Question Id : 6406531150507 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Select the most appropriate idiom of the given meaning.

A good thing that seemed bad at first.

**Options :**

6406533889366. ✓ A blessing in disguise

6406533889367. ✗ See eye to eye

6406533889368. ✗ Forty winks

6406533889369. ✗ Hold your horses

**Question Number : 49 Question Id : 6406531150508 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Select true or false for the following statement.

The idiom 'cut corners' means 'to do something in the fastest and the cheapest way'

**Options :**

6406533889370. ✓ True

6406533889371. ✗ False

**Question Number : 50 Question Id : 6406531150509 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Fill in the blank with the correct phrasal verb.

The leader \_\_\_\_ the message to his teammates.

**Options :**

6406533889372. ✗ Passed out

6406533889373. ✓ Passed on

6406533889374. ✗ Passed up

6406533889375. ✗ None of these

**Question Number : 51 Question Id : 6406531150510 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Find the incorrect sentence.

**Options :**

6406533889376. ✖ The fair ended and the crowd broke up

6406533889377. ✖ Not one of his friends stuck up for him

6406533889378. ✔ The teacher touched the concept on briefly

6406533889379. ✖ He has turned into an irrevocable capitalist, hasn't he?

**Question Number : 52 Question Id : 6406531150511 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Complete the sentence by choosing the correct form of the verb given in brackets.

She was \_\_\_\_\_( bite) by a shark.

**Options :**

6406533889380. ✖ Bite

6406533889381. ✖ Biting

6406533889382. ✖ Bit

6406533889383. ✔ Bitten

**Question Number : 53 Question Id : 6406531150512 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Which among the following does **NOT** carry the sound /p/?

**Options :**

6406533889384. ✖ Pneumonia

6406533889385. ✖ Psychology

6406533889386. ✖ Photon

6406533889387. ✔ All of these

**Question Number : 54 Question Id : 6406531150513 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Choose an appropriate prefix that gives the antonym of '*tolerant*'.

**Options :**

6406533889388. ✖ Mis-

6406533889389. ✖ Un-

6406533889390. ✖ Dis-

6406533889391. ✔ In-

**Question Number : 55 Question Id : 6406531150514 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question



Choose the correctly paused sentence.

**Options :**

6406533889392. ✖ Ms. Ursula carry/ your umbrella//
6406533889393. ✖ Ms. Ursula carry your/ umbrella//
6406533889394. ✔ Ms. Ursula/ carry your umbrella//
6406533889395. ✖ Ms./ Ursula carry/ your umbrella//

## CT

Section Id :	64065381342
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	14
Number of Questions to be attempted :	14
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653174984
Question Shuffling Allowed :	No

**Question Number : 56 Question Id : 6406531150515 Question Type : MCQ**

**Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "QUALIFIER LEVEL : COMPUTATIONAL THINKING (COMPUTER BASED EXAM)"**

**Options :**

6406533889396. ✔ YES
6406533889397. ✖ NO

**Question Number : 57 Question Id : 6406531150516 Question Type : MCQ**

**Correct Marks : 0**

Question Label : Multiple Choice Question

Scores								
SeqNo	Name	Gender	DateOfBirth	TownCity	Mathematics	Physics	Chemistry	Total
0	Bhuvanesh	M	7 Nov	Erode	68	64	78	210
■ ■ ■								
29	Naveen	M	13 Oct	Vellore	72	66	81	219

Words			
SeqNo	Word	PartOfSpeech	LetterCount
0	It	Pronoun	2
■ ■ ■			
64	cane.	Noun	4

Library							
SeqNo	Name	Author	Genre	Language	Pages	Publisher	Year
0	Igniting Minds	Kalam	Norfiction	English	178	Penguin	2002
■ ■ ■							
29	Malgudi Days	Narayan	Fiction	English	150	Indian Thought	1943

Olympics							
SeqNo	Name	Gender	Nationality	Host country	Year	Sport	Medal
0	Karnam Malleswari	F	Indian	Australia	2000	Weightlifting	Bronze
- - -							
49	Michael Phelps	M	American	China	2008	Swimming	Gold

Three sample cards out of 30 for Shopping Bills dataset

Item List

SV Stores		Srivatsan 1			
Item	Category	Qty	Price	Cost	
Carrots	Vegetables/Food	1.5	50	75	
Soap	Toiletries	4	32	128	
Tomatoes	Vegetables/Food	2	40	80	
Bananas	Vegetables/Food	8	8	64	
Socks	Footwear/Apparel	3	56	168	
Curd	Dairy/Food	0.5	32	16	
Milk	Dairy/Food	1.5	24	36	
		567			

Sun General		Vignesh 14			
Item	Category	Qty	Price	Cost	
Phone Charger	Utilities	1	230	230	
Razor Blades	Grooming	1	12	12	
Razor	Grooming	1	45	45	
Shaving Lotion	Grooming	0.8	180	144	
Earphones	Electronics	1	210	210	
Pencils	Stationery	3	5	15	
		656			

Big Bazaar		Sudeep 2			
Item	Category	Qty	Price	Cost	
Baked Beans	Canned/Food	1	125	125	
Cricken Wings	Meat/Food	0.5	600	300	
Cocoa powder	Canned/Food	1	160	160	
Capsicum	Vegetables/Food	0.8	180	144	
Tie	Apparel	2	390	780	
Cips	Household	0.5	32	16	
		1525			

Options :

6406533889398. Useful Data has been mentioned above.
6406533889399. This data attachment is just for a reference & not for an evaluation.

Sub-Section Number :2

Sub-Section Id :640653174985

Question Shuffling Allowed :Yes

**Question Number : 58 Question Id : 6406531150518 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

### Statement

The following pseudocode is executed using the "Scores" dataset. At the end of the execution of below pseudocode, if **count2** represents the number of male students whose Physics marks are less than or equal to Mathematics marks, then select the correct code fragment for **A** and **B**.

```
1  count1 = 0, count2 = 0
2  while(Table 1 has more rows){
3      Read the first row x in Table 1
4      if(...A... or ...B...){
5          count1 = count1 + 1
6      }
7      else{
8          count2 = count2 + 1
9      }
10     Move x to Table 2
11 }
```

**Options :**

A: `x.Gender == 'F'`

6406533889404. ✖ B: `x.Mathematics > x.Physics`

A: `x.Gender == 'M'`

6406533889405. ✖ B: `x.Mathematics < x.Physics`

A: `x.Gender == 'F'`

6406533889406. ✔ B: `x.Mathematics < x.Physics`

A: `x.Gender == 'M'`

6406533889407. ✖ B: `x.Mathematics > x.Physics`

**Question Number : 59 Question Id : 6406531150519 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

The following pseudocode is executed using the "Words" table. At the end of the execution, **count** stores the number of pairs of nouns such that both nouns have either the same letter count or both end with a full stop. Choose the correct code fragment to complete the pseudocode.

```
1  count = 0
2  while(Table 1 has more rows){
3      Read the first row X in Table 1
4      Move X to Table 2
5      if(X.PartOfSpeech == "Noun"){
6          while(Table 1 has more rows){
7              Read the first row Y in Table 1
8              Move Y to Table 3
9              if(**Statement 1**){
10                 if(**Statement 2**){
11                     count = count + 1
12                 }
13                 else{
14                     if(**Statement 3**){
15                         count = count + 1
16                     }
17                 }
18             }
19         }
20         Move all rows from Table 3 to Table 1
21     }
22 }
```

### Options :

Statement 1: X.PartOfSpeech == Y.PartOfSpeech  
Statement 2: X.LetterCount == Y.LetterCount  
Statement 3: X.Word and Y.Word end with a full stop

6406533889408. ✓

Statement 1: X.Word and Y.Word end with a full stop  
Statement 2: X.PartOfSpeech == Y.PartOfSpeech  
Statement 3: X.LetterCount == Y.LetterCount

6406533889409. ✗

Statement 1: X.LetterCount == Y.LetterCount  
Statement 2: X.Word and Y.Word end with a full stop  
Statement 3: X.PartOfSpeech == Y.PartOfSpeech

6406533889410. ✗

Statement 1: X.LetterCount == Y.LetterCount  
Statement 2: X.PartOfSpeech == Y.PartOfSpeech  
Statement 3: X.Word and Y.Word end with a full stop

6406533889411. ✗

Question Number : 60 Question Id : 6406531150520 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

## Statement

The following pseudocode is executed using the "Scores" dataset. At the end of the execution, variable **Count** captures the number of students whose total marks are more than the class average (of total marks) but have scored below the subject average in at least one subject. Assume that the variable **AvgT** holds the value of the average total marks. Similarly, the variables **AvgP**, **AvgC** and **AvgM** hold the value of the average marks of Physics, Chemistry and Mathematics respectively. Choose the correct code fragment to complete the pseudocode.

```
1  Count = 0
2  while(Table 1 has more rows){
3      Read the first row X from Table 1
4      A = False, B = False, C = False, D = False
5      if(X.Total > AvgT){
6          A = True
7      }
8      if(X.Mathematics < AvgM){
9          B = True
10     }
11     if(X.Physics < AvgP){
12         C = True
13     }
14     if(X.Chemistry < AvgC){
15         D = True
16     }
17     *****
18     * Fill the code *
19     *****
20     Move X to Table 2
21 }
```

Options :

```
1  if(A and (B or C or D)){
2      Count = Count + 1
3  }
```

6406533889412. ✓

```
1  if(A or (B and C and D)){
2      Count = Count + 1
3  }
```

6406533889413. ✖



```

1  if(A and not(B and C and D)){
2      Count = Count + 1
3  }

```

6406533889414. ✖

```

1  if(A or not(B or C or D)){
2      Count = Count + 1
3  }

```

6406533889415. ✖

**Question Number : 61 Question Id : 6406531150521 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

### Statement

The following pseudocode is executed using the "Words" dataset. What will **A** represent at the end of the execution?

```

1  SumT = 0, CountT = 0, B = 0
2  while(Table 1 has more rows){
3      Read the first row X in Table 1
4      CountT = CountT + 1
5      SumT = SumT + X.LetterCount
6      Move X to Table 2
7  }
8  B = SumT / CountT
9
10 SumS = 0, Counts = 0, A = 0, C = 0
11 while(Table 2 has more rows){
12     Read the first row X in Table 2
13     Counts = Counts + 1
14     SumS = SumS + X.LetterCount
15     if(X.word ends with a full stop){
16         C = SumS / Counts
17         if(C < B){
18             A = A + 1
19         }
20         SumS = 0, Counts = 0
21     }
22     Move X to Table 1
23 }

```

**Options :**

6406533889416. ✖ Number of sentences with average letter count more than the average letter count of dataset

6406533889417. ✓ Number of sentences with average letter count less than the average letter count of dataset

6406533889418. ✖ Number of words with average letter count more than the average letter count per word of dataset

6406533889419. ✖ Number of words with average letter count less than the average letter count per word of dataset

**Question Number : 62 Question Id : 6406531150522 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

## Statement

Procedure **miniSum** accepts three numbers as parameters and returns the sum of two smallest numbers.

Choose the correct code fragment to complete the procedure.

```
1 Procedure miniSum(A, B, C)
2     Sum = 0
3     if(A > C and A > B){
4         Sum = B + C
5     }
6     *****
7     * Fill the code *
8     *****
9     return(Sum)
10 End miniSum
```

**Options :**

```
1 else{
2     if(B > C and B > A){
3         Sum = A + C
4     }
5     else{
6         Sum = A + B
7     }
8 }
```

6406533889420. ✓

```
1 if(B > C and B > A){
2     Sum = A + C
3 }
4 else{
5     Sum = A + B
6 }
```

6406533889421. ✖



```

1  else{
2      Sum = A + B
3  }
4  if(C > B and B > A){
5      Sum = A + C
6  }
7

```

6406533889422. ✖

```

1  else{
2      Sum = A + B
3  }
4  if(C > B and B > A){
5      Sum = B + C
6  }

```

6406533889423. ✖

**Question Number : 63 Question Id : 6406531150523 Question Type : MCQ**

**Correct Marks : 4**

Question Label : Multiple Choice Question

### Statement

The following pseudocode is executed using the "Scores" dataset. What will A represent at the end of the execution?

```

1  A = 0
2  while(Pile 1 has more cards){
3      Read the top card X from Pile 1
4      A = A + isInSeq(X)
5      Move X to Pile 2
6  }
7
8  Procedure isInSeq(X)
9      if(X.Mathematics > X.Physics){
10         if(X.Physics < X.Chemistry){
11             return(1)
12         }
13     }
14     return(0)
15 End isInSeq

```

**Options :**

6406533889424. ✖ Number of students with highest marks in Mathematics among the three subjects

6406533889425. ✖ Number of students with highest marks in Mathematics and lowest marks in Physics

6406533889426. ✖ Number of students with highest marks in Chemistry among the three subjects

6406533889427. ✔ Number of students with lowest marks in Physics among the three subjects

**Sub-Section Number :**

3

**Sub-Section Id :**

640653174986

**Question Shuffling Allowed :**

Yes

**Question Number : 64 Question Id : 6406531150524 Question Type : MCQ**

**Correct Marks : 5**

Question Label : Multiple Choice Question

The given pseudocode is executed using the "Olympics" table. What will **count** represent at the end of the execution? Assume all players have distinct names.

```
1  count = 0
2  while(Table 1 has more rows){
3      Read the first row X in Table 1
4      Move X to Table 2
5      while(Table 1 has more rows){
6          Read the first row Y in Table 1
7          Move Y to Table 3
8          if(X.Name != Y.Name){
9              if(X.Nationality == Y.Nationality and X.Medal == Y.Medal){
10                 count = count + 1
11             }
12         }
13     }
14     Move all rows from Table 3 to Table 1
15 }
```

**Options :**

6406533889428. ✖ The number of pairs of players having the same nationality or the same medal.

6406533889429. ✔ The number of pairs of players having the same nationality and same medal.

6406533889430. ✖ The number of players having the same nationality and same medal.

6406533889431. ✖ The number of players having the different name but of same nationality.

**Sub-Section Number :**

4

**Sub-Section Id :**

640653174987

**Question Shuffling Allowed :**

Yes

**Question Number : 65 Question Id : 6406531150517 Question Type : MSQ**

**Correct Marks : 4 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Let **X** and **Y** be two rows in the "Scores" table. We call **X** and **Y** partially matching if student **X** and **Y** are either from the same city or have the same total marks or both. Let **partialMatch(X, Y)** be a procedure to find whether **X** and **Y** are matching. Choose the correct implementation of the procedure **partialMatch**.

Options :

```
1 Procedure partialMatch(X, Y)
2   A = False, B = False
3   if(X.CityTown == Y.CityTown){
4     A = True
5   }
6   if(X.Total == Y.Total){
7     B = True
8   }
9   if(A and B){
10    return (True)
11  }
12  return(False)
13 End partialMatch
```

6406533889400. ✖

```
1 Procedure partialMatch(X, Y)
2   A = False, B = False
3   if(X.CityTown == Y.CityTown){
4     A = True
5   }
6   if(X.Total == Y.Total){
7     B = True
8   }
9   if(A or B){
10    return(True)
11  }
12  return(False)
13 End partialMatch
```

6406533889401. ✔

6406533889402. ✖

```

1 Procedure partialMatch(X, Y)
2     A = 0, B = 0
3     if(X.CityTown == Y.CityTown){
4         A = 1
5     }
6     if(X.Total == Y.Total){
7         B = 1
8     }
9     if(A + B == 1){
10         return(True)
11     }
12     return(False)
13 End partialMatch

```

```

1 Procedure partialMatch(X, Y)
2     A = 0, B = 0
3     if(X.CityTown == Y.CityTown){
4         A = 1
5     }
6     if(X.Total == Y.Total){
7         B = 1
8     }
9     if((A + B) >= 1){
10         return(True)
11     }
12     return(False)
13 End partialMatch

```

6406533889403. ✓

**Question Number : 66 Question Id : 6406531150525 Question Type : MSQ**

**Correct Marks : 4 Max. Selectable Options : 0**

Question Label : Multiple Select Question

## Statement

The given pseudocode is executed using the "Shopping Bills" dataset. **frac** stores the ratio of the number of customers who purchased both "Bread" and "Milk" to the number of customers who purchased "Milk". Choose the correct code fragment(s) of procedure **hasItem** to complete the pseudocode. (Assume there is at least one customer who has purchased "Milk"). [MSQ]

```
1  mCount = 0, bCount = 0
2  while(Pile 1 has more cards){
3      Read the top card X in Pile 1
4      if(hasItem(X, "Milk")){
5          mCount = mCount + 1
6          if(hasItem(X, "Bread")){
7              bCount = bCount + 1
8          }
9      }
10     Move X to Pile 2.
11 }
12 frac = bCount / mCount
13
14 Procedure hasItem (Y, A)
15     *****
16     * Fill the code *
17     *****
18 End hasItem
```

## Options :

```
1      C = False
2      while(Card Y has more items){
3          Read an item Z from ItemList of card Y
4          if(Z.Item == A){
5              C = True
6          }
7          else{
8              C = False
9          }
10         Remove Z from ItemList of Y
11     }
12     return(C)
```

6406533889432. ✖

6406533889433. ✔

```

1      C = False
2      while(Card Y has more items){
3          Read an item Z from ItemList of card Y
4          if(Z.Item == A){
5              C = True
6          }
7          Remove Z from ItemList of Y
8      }
9      return(C)

```

```

1      C = True
2      while(Card Y has more items){
3          Read an item Z from ItemList of card Y
4          if(Z.Item == A){
5              C = True
6          }
7          Remove Z from ItemList of Y
8      }
9      return(C)

```

6406533889434. ✖

```

1      C = True
2      while(Card Y has more items){
3          Read an item Z from ItemList of card Y
4          if(Z.Item == A){
5              C = False
6          }
7          Remove Z from ItemList of Y
8      }
9      return not(C)

```

6406533889435. ✔

**Question Number : 67 Question Id : 6406531150526 Question Type : MSQ**

**Correct Marks : 4 Max. Selectable Options : 0**

Question Label : Multiple Select Question



## Statement

The given information represents a "Words" dataset and it may have some mistakes with respect to the sanity of data. Identify all rows with such mistakes. [MSQ].

Row no.	Field	Value
Row 1	Card number	"xyz"
Row 2	Word	1
Row 3	Part of Speech	"Noun"
Row 4	Letter Count	- 5

### Options :

6406533889436. ✔ Row 1: Incorrect data type of card number  
6406533889437. ✔ Row 2: Incorrect data type of Word  
6406533889438. ✖ Row 3: Incorrect data type of Part of Speech  
6406533889439. ✖ Row 3: Invalid value of Part of Speech  
6406533889440. ✖ Row 4: Incorrect data type of Letter Count  
6406533889441. ✔ Row 4: Invalid value of Letter Count

**Sub-Section Number :** 5  
**Sub-Section Id :** 640653174988  
**Question Shuffling Allowed :** Yes

**Question Number : 68 Question Id : 6406531150527 Question Type : MSQ**  
**Correct Marks : 5 Max. Selectable Options : 0**  
Question Label : Multiple Select Question



## Statement

The following pseudocode is executed using the "Scores" dataset. At the end of the execution, **count** captures the number of pairs of students having either same gender or from the same city but not both. But the pseudocode may have mistakes. Identify all such mistakes (if any). Assume that all statements not listed in the options below are free of errors. [MSQ]

```
1  count = 0
2  while(Table 1 has more rows){
3      Read the first row X in Table 1
4      Move X to Table 2
5      while(Table 1 has more rows){
6          Read the first row Y in Table 1
7          Move Y to Table 3
8          count = count + findPair(X, Y)
9      }
10     Move all rows from Table 3 to Table 1
11 }
12 Procedure findPair(X, Y)
13     A = False, B = True
14     if(X.Gender == Y.Gender){
15         A = True
16     }
17     if(X.CityTown == Y.CityTown){
18         B = True
19     }
20     if((A and not B) and (not A and B)){
21         return(1)
22     }
23     return(0)
24 End findPair
```

### Options :

6406533889442. ✓ Line 13: Incorrect initialisation of **B**

6406533889443. ✗ Line 18: Incorrect update of **B**

6406533889444. ✓ Line 20: Incorrect condition

6406533889445. ✗ Line 21: It should **return(0)**

Sub-Section Number :

6

Sub-Section Id :

640653174989

Question Shuffling Allowed :

Yes

Question Number : 69 Question Id : 6406531150528 Question Type : SA

Correct Marks : 4

Question Label : Short Answer Question

The following pseudocode is executed using a dataset similar to the "Words" dataset, based on the following paragraph.

"Surrounded by nature, Susan often takes a stroll, savoring the soothing sounds of chirping birds. Such moments underline the significance of embracing simple joys in life. Rustlings in the trees suggest squirrels beginning their day, searching for sustenance. Surely, the beauty of a sunrise holds unparalleled magic."

```
1  count = 0, flag = True
2  while(Table 1 has more rows){
3      Read the first row x in Table 1
4      Move x to Table 2
5      if(flag){
6          if(1st letter of x.word == 's'){
7              if(2nd letter of x.word == 'u'){
8                  count = count + 1
9              }
10         }
11     }
12     flag = False
13     if(x.word ends with full stop){
14         flag = True
15     }
16 }
```

What would be the value of **count** at the end of the execution of the above pseudocode? Assume that upper case and lower case are ignored during comparison of letters.

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

3

## Stats-1

Section Id :	64065381343
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	14
Number of Questions to be attempted :	14
Section Marks :	40

Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653174990
Question Shuffling Allowed :	No

**Question Number : 70 Question Id : 6406531150529 Question Type : MCQ**

**Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "QUALIFIER LEVEL : STATISTICS FOR DATA SCIENCE I (COMPUTER BASED EXAM)"**

**Options :**

6406533889447. ✓ YES

6406533889448. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	640653174991
Question Shuffling Allowed :	Yes

**Question Number : 71 Question Id : 6406531150530 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

An inspection officer wants to test the tensile strength of threaded rods produced by a factory. If the inspection officer is interested to test the tensile strength of threaded rods produced by the factory in different months of year 2022 and collected the data for the same, then choose the correct option:

**Options :**

6406533889449. ✓ It is time-series data.

6406533889450. ✗ It is cross-sectional data.

**Question Number : 72 Question Id : 6406531150531 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

A survey is conducted to assess the monthly income of families in a town. Respondents are asked to select one of the following options:

- Less than Rs. 20000
- Rs. 20000 - Rs. 40000
- Rs. 40000 - Rs. 60000
- More than Rs. 60000

What kind of scale of measurement has been used here?

**Options :**

6406533889451. ✓ Ordinal
6406533889452. ✗ Interval
6406533889453. ✗ Ratio and interval
6406533889454. ✗ Both ordinal and interval

**Sub-Section Number :** 3

**Sub-Section Id :** 640653174992

**Question Shuffling Allowed :** Yes

**Question Number : 73 Question Id : 6406531150532 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Choose the correct option:

**Options :**

6406533889455. ✗ If the large values of variable  $X$  tend to be associated with small values of variable  $Y$ , then the correlation between  $X$  and  $Y$  will be positive.
6406533889456. ✗ If the points are located densely in a scatter diagram, then we can always expect a poor correlation between the variables.
6406533889457. ✓ Correlation is a unitless measure of association.
6406533889458. ✗ Correlation always lie between 0 and 1.

**Sub-Section Number :** 4

**Sub-Section Id :** 640653174993

**Question Shuffling Allowed :** Yes

**Question Number : 74 Question Id : 6406531150533 Question Type : MSQ**

**Correct Marks : 2 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Choose the correct statement/s ?

**Options :**

6406533889459. ✓ A nominal scale has the property of labelling the categories and it does not involve the ranking of data.
6406533889460. ✓ An ordinal scale has all the properties of nominal scale and it involves the ranking of data.
6406533889461. ✗ An Interval scale has all the properties of ordinal scale and it satisfies the absolute zero property.
6406533889462. ✗ A ratio scale has all the properties of interval scale and it does not satisfy the

absolute zero property.

Sub-Section Number : 5  
Sub-Section Id : 640653174994  
Question Shuffling Allowed : Yes

Question Number : 75 Question Id : 6406531150534 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Samiksha purchased 5 t-shirts of sizes M, L, S, XL, S for her cousins. Later she purchased one more t-shirt of size M, then choose the correct option(s) from the following:

Options :

6406533889463. ✓ Median of the new data is same as of old data.

6406533889464. ✓ New data will be bimodal.

6406533889465. ✗ Median of the new data will change.

6406533889466. ✗ New data will be unimodal.

Question Number : 76 Question Id : 6406531150535 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

If  $m_1 = \frac{x_1 + x_2 + \dots + x_n}{n}$ ,  $m_2 = \frac{x_2 + x_3 + \dots + x_{n+1}}{n}$  and  $m_3 = \frac{x_3 + x_4 + \dots + x_{n+2}}{n}$ , then choose the correct option(s)?

Options :

6406533889467. ✗  $m_2 = m_1 + \frac{(x_{n+1} - x_3)}{n}$

6406533889468. ✓  $m_3 = m_2 + \frac{(x_{n+2} - x_2)}{n}$

6406533889469. ✗  $m_2 = m_1 + \frac{(x_{n+1} - x_2)}{n}$

6406533889470. ✓  $m_2 = m_1 + \frac{(x_{n+1} - x_1)}{n}$

Sub-Section Number : 6  
Sub-Section Id : 640653174995  
Question Shuffling Allowed : Yes

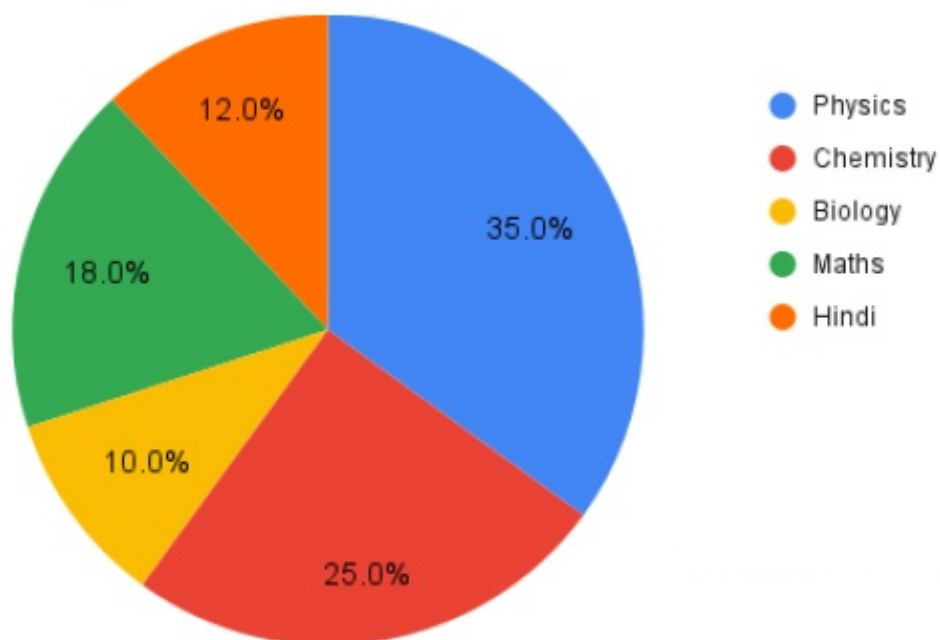
Question Number : 77 Question Id : 6406531150536 Question Type : SA

**Correct Marks : 3**

Question Label : Short Answer Question

Figure Q.1 shows the pie chart representation of the weightage distribution of 5 different subjects in an exam.

## Distribution of Weightage



**Figure Q.1: Weightage distribution of 5 different subjects**

If the exam is of 300 marks, then what is the aggregate marks in Physics and Biology?

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

135

**Question Number : 78 Question Id : 6406531150537 Question Type : SA**

**Correct Marks : 3**

Question Label : Short Answer Question

The sum of 12 observations is 60, and the sum of their squares is 360. Find the population standard deviation. Enter the answer correct to two decimal places.

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range



**Text Areas :** PlainText

**Possible Answers :**

2.21 to 2.27

**Question Number : 79 Question Id : 6406531150538 Question Type : SA**

**Correct Marks : 3**

Question Label : Short Answer Question

Let the population standard deviation and the sample standard deviation for a dataset be  $3\sqrt{2}$  and  $2\sqrt{5}$ , respectively. Find the number of observations in the dataset.

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

10

**Sub-Section Number :** 7

**Sub-Section Id :** 640653174996

**Question Shuffling Allowed :** No

**Question Id : 6406531150539 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix**

**Question Numbers : (80 to 81)**

Question Label : Comprehension

Table Q.1 represents the results of a survey conducted in 2024 on the preferred modes of transport among 1000 respondents:

Mode of Transport	Number of Respondents	Relative frequency
Bike	400	
Bicycle	$x$	0.25
Public Transport	$y$	
Car	50	

Table Q.1: Survey on Preferred Modes of Transport (2024)

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number : 80 Question Id : 6406531150540 Question Type : SA**

**Correct Marks : 2**



Question Label : Short Answer Question

What is the relative frequency of respondents who prefer Public Transport? Enter the answer correct to one decimal place.

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

0.3

**Question Number : 81 Question Id : 6406531150541 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which mode of transport has the lowest relative frequency?

**Options :**

6406533889475. ✓ Car

6406533889476. ✗ Bicycle

6406533889477. ✗ Public Transport

6406533889478. ✗ Bike

**Question Id : 6406531150542 Question Type : COMPREHENSION Sub Question Shuffling**

**Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix**

**Question Numbers : (82 to 83)**

Question Label : Comprehension

The Head of the transportation facility at the IIT Madras campus wants to conduct a survey to rate the bus services offered to all the students. He randomly selects 100 final year students from the campus. Based on the given information, answer the subquestions.

**Sub questions**

**Question Number : 82 Question Id : 6406531150543 Question Type : MSQ**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Identify the sample and the population.

**Options :**

6406533889479. ✓ The population is all the students at IIT Madras campus.

6406533889480. ✗ The sample is all the final year students at IIT Madras campus.

6406533889481. ✓ The sample is 100 randomly selected final year students at IIT Madras campus.

6406533889482. ✗ The population is all the final year students at IIT Madras campus.

**Question Number : 83 Question Id : 6406531150544 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Identify the correct statement from the following?

**Options :**

6406533889483. ✖ Selected sample is a good representation of the population

6406533889484. ✔ Selected sample is not a good representation of the population.

**Sub-Section Number :** 8

**Sub-Section Id :** 640653174997

**Question Shuffling Allowed :** No

**Question Id : 6406531150545 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix**

**Question Numbers : (84 to 85)**

Question Label : Comprehension

The number of awards given to a university drama club each year for outstanding performances is represented in the following stem-and-leaf plot.

Stem	Leaf
2	0 3 6
3	2 4 8
4	0 2 3
5	2

Here, 3|8 represents 38 .

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number : 84 Question Id : 6406531150546 Question Type : SA**

**Correct Marks : 3**

Question Label : Short Answer Question

What is the mean number of awards given to the drama club if each observation is multiplied by 2 after adding 3 to it?

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

76

**Question Number : 85 Question Id : 6406531150547 Question Type : MCQ**

**Correct Marks : 2**

Question Label : Multiple Choice Question

What is the median number of awards given to the drama club ?

**Options :**

6406533889486. ✓ 36

6406533889487. ✗ 34

6406533889488. ✗ 38

6406533889489. ✗ 32

**Sub-Section Number :**

9

**Sub-Section Id :**

640653174998

**Question Shuffling Allowed :**

No

**Question Id : 6406531150548 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (86 to 87)**

Question Label : Comprehension

An analyst wants to check whether the number of hours a student spent in learning is related to their exam performance. She randomly selects 6 students from the top 15 students of the class and data for the same is tabulated in Table Q.2

Student	Result	Number of hours
Student 1	Fail	19
Student 2	Pass	20
Student 3	Fail	18
Student 4	Pass	25
Student 5	Pass	13
Student 6	Fail	20

Table Q.2: Number of hours spent by students

Based on the given information, answer the subquestions.

**Sub questions**

**Question Number : 86 Question Id : 6406531150549 Question Type : SA**

**Correct Marks : 5**

Question Label : Short Answer Question

Calculate the absolute value of Point Bi-serial correlation coefficient between the result and number of hours spent. Enter the answer correct to three decimal places.

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

0.043 to 0.051

**Question Number : 87 Question Id : 6406531150550 Question Type : MCQ**

**Correct Marks : 1**

Question Label : Multiple Choice Question

Are the exam results of the selected students strongly influenced by the number of hours spent studying?

**Options :**

6406533889491. ✖ Yes, because the absolute value of Point Bi-serial coefficient is close to 1.

6406533889492. ✖ No, because the absolute value of Point Bi-serial coefficient is close to 1.

6406533889493. ✖ Yes, because the absolute value of Point Bi-serial coefficient is close to 0.

6406533889494. ✔ No, because the absolute value of Point Bi-serial coefficient is close to 0.