

**Post Graduate Programme in Digital Product Design and Management (PGP-DPDM)
IIIT Bangalore**

Sample Questions for Entrance Examination

The entrance examination will have five sections. The first four sections, on Numerical Ability, Verbal Ability, Analytical Ability and Design Awareness, will have 15 multiple-choice questions (MCQs) each. The fifth section will have a choice of 3-4 topics and the candidates will have to write a 250-word essay (in English) on one of the topics of their choice; this essay will be used to test the candidate's Social and IT Awareness.

The questions given below are intended to give the candidates a feel of the type of concepts that will be tested during the examination, and are not suggestive of the actual number of questions for any section or for the entire examination.

Section I: Numerical Ability

1) If the length of a rectangle is increased by 5.55%, by what percentage the width should be reduced so that the area remains same?

- A) 5.88%
- B) 5.55%
- C) 5.26%
- D) 6.25%

2) Find the value of k, where $k = 0.77 + 7.77 + 0.07 + 77.07 + 77.77 + 7.07$

- A) 169.52
- B) 170.42
- C) 169.42
- D) 170.52

3) Last year, the prices of tea and coffee were in the ratio of 12:23. Between last year and this year, the price of tea has risen in the ratio of 15:19 and that of coffee, in the ratio of 5:6. If this year a kg of coffee and a kg of tea together cost Rs. 214, how much does a kg of coffee cost?

- A) Rs. 115
- B) Rs. 161
- C) Rs. 136
- D) Rs. 138

Section II: Verbal Ability

Read the passage and answer the question that follows on the basis of the information provided in the passage.

Dictionaries will tell you that a traitor is one who betrays a confidence or trust, one who performs perfidiously or treacherously, one who even violates his allegiance and betrays his country. From an analytical point of view this definition is inadequate. It was Shakespeare who came closer, "though those that are betrayed do feel the treason sharply yet the traitor stands in worse case of woe." It is this woe that interests the analyst.

I will give you a miniature portrait of a traitor based in my studies. Like all other men, he is possessed of three basic needs, the first to be secure, dependent on someone who can keep him safe; the second to advance to achieve mastery to satisfy his aggression; the third to perform normally and cooperatively with other human beings, to fulfil his urge to give and receive love. But the potential traitors is unlike most men that is his basic needs, impulses, urges are unfulfilled, inhibited, and eventually warped. Most often he will have suffered disapproval, or rejection, or lack of love, from a parent or parents. As a child he will have yearned for safety, protection and been deprived. Usually he will grow to adulthood, longing for someone to depend upon, hating a parent who has failed him, yet filled with anxieties over his repressed hostilities. His normal aggression towards his parents, controlled by his need for love would ideally be re-directed in adulthood into healthy defences against men dangers that arise. But because of his abnormal upbringing, he cannot sublimate his aggression. He finally turns against the authority of a parent or parents; yet he still has a need for dependence on a protective authority, as well as a need for approval. In such an unhappy situation some men will seek the authority of the church, and subordinate themselves to a power, all-encompassing and too softly to be resented and others in their helpless anxiety might seek to find comfort in the authority fatherland.

But suppose their fatherland is a farcical democracy of individuals as are America and Great Britain, unable to give these men a dependable image to cling to, offering them no channel through which to alleviate their hate or satisfy their need for love? Supposing also materialistic in their eyes?

Such men may become desolate, unsuccessful, despairing neurotic clods. But one man, the one determined, man finds a way out. He will be attracted in America, or in Russia, or in China, by a political sect, let us say, the Communist party with rigid rules and complex dialects. Here is the parent with authority, granting approval he has never before known. Here is a totalitarian symbol upon which he can depend, through which he can find an outlet for hostility and aggressions, from which he will receive the reward of love. And here, too, as has been remarked is "a vision of the Kingdom of God on earth." And so our man resolves his neurotic conflicts. He turns to a new and higher authority than his remiss parents or disinterested fatherland. He offers his allegiance to communism, but since he wishes adoption, he must prove himself, and so he betrays his present authority to his future one, stealing secrets from his fatherland and passing them in as gifts to the men of authority that have adopted him. Oversimplification or not, this is the portrait of a conscious or unconscious traitor.

1) The passage presents the meaning of the word, 'traitor' and draws –

- A) The portrait of a political leader
- B) The picture of a villain who betrays his country
- C) The growth of a potential traitor
- D) The picture of one who needs and finds an outlet for hostility and aggressions

2) Fill in the blank with the correct option:

The country is ushering _____ a new era.

- A) onto
- B) in
- C) of
- D) over

3) Fill in the blanks with the correct option:

As the crowd _____ on the enormous stone structure, Becker tried to cut left again, but the current _____ stronger now.

- A) closed; was
- B) closes; is
- C) was closer; will be
- D) had closed; would be

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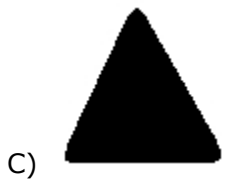
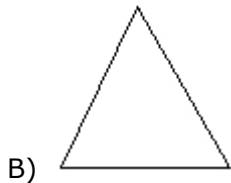
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Section III: Analytical Ability

1) If SAMUEL is written as TZNTFK, what is the code for MANUAL?

- A) LZOVBM
- B) NZOTBK
- C) NZOSBM
- D) LZOVZMSW

2) Complete the Analogy:



3) In the following question, mark

- 1, if statement I alone can help determine the conclusion
- 2, if statement II alone can help determine the conclusion
- 3, if statement I and II taken together can help determine the conclusion
- 4, if none of the statements, taken together or separately, can help determine the conclusion

Who is the tallest of the four people?

Statement I: R is taller than H but shorter than N.
Statement II: S is taller than N.

- A) 1
- B) 2
- C) 3
- D) 4

Section IV: Design Awareness

1) In the heavy snow fall areas of Himalayas, traditional houses have a

- A) Sloping roof
- B) Flat roof
- C) Dome roof
- D) Vault roof
- E) None of the above

2) Solar photo-voltaic panels convert sunlight to electricity. In India, they should face

- A) North
- B) East
- C) West
- D) South
- E) Any direction

3) In traffic signals Red light is used to ask people to stop because Red light

- A) Is beautiful
- B) Has a higher wavelength
- C) Has a lower frequency
- D) Can be seen from a long distance
- E) None of the above

4) A widget is

- A) An element of interaction like a check box and scroll bar
- B) A dwarf
- C) A winged imaginary person
- D) A beverage
- E) A computer program to draw shapes

5) Jugaad is

- A) Innovation which uses meagre resources
- B) A World War II jeep
- C) A precise engineering solution to a complex problem
- D) An Indian way of arguing
- E) None of the above

Section V: Social and IT Awareness

Write an essay, in not more than 250 words, on any one of the following topics:

1. We often hear about how bias in the dataset leads to the adverse impact of AI/ML technologies. Evaluate a digital technology that you use quite frequently to highlight the biases it may represent.
2. What forms of inequalities may persist through the platform economy in India? Elaborate with examples.
3. IUDX was born out of the need to enable data exchange between various city departments, government agencies, citizens and private sector. IUDX helps the cities in using the data intelligently to address complex urban challenges, establish integrated development across various aspects of the urban sector and catapult them to the next stage of innovation. IUDX is completely open source, based on an underlying framework of open standard APIs, data models, and the security, privacy and accounting mechanisms that will facilitate its easy adoption across the digital ecosystem. [Ref: <https://iudx.org.in/about-us/>]

Q. What kind of a social space is IUDX? How would you critically evaluate the claims made around it for the benefit of citizens, communities and the city?