Comprehension Test for Bank Exams (LIC AAO, SBI PO Pre, IBPS PO Pre, SBI Clerk Mains, and IBPS Clerk Mains)

Passage No. 113

Direction: Study the following information carefully and answer the question given below.

In a recent discussion paper, NITI Aayog has chalked out an ambitious strategy for India to become an artificial intelligence (AI) powerhouse. AI is the use of computers to make decisions that are normally made by humans. Many forms of AI surround Indians already, including chatbots on retail websites and programs that flag fraudulent bank activity. But NITI Aayog envisions AI solutions for India on a scale not seen anywhere in the world today, especially in five key sectors — agriculture, healthcare, education, smart cities and infrastructure, and transport. In agriculture, for example, machines will provide information to farmers on the quality of soil, when to sow, where to spray herbicide, and when to expect pest infestations. It's an idea with great potential: India has 30 million farmers with smartphones, but poor extension services. If computers help agricultural universities advise farmers on best practices, India could see a farming revolution.

However, there are formidable obstacles. AI start-ups already offer some solutions, but the challenge lies in scaling these to cover the entire value chain, as NITI Aayog envisions. The first problem is data. Machine learning, the set of technologies used to create AI, is a data-guzzling monster. It takes reams of historical data as input, identifies the relationships among data elements, and makes predictions. More sophisticated forms of machine learning, like "deep learning", attempt to mimic the human brain. And even though they promise greater accuracy, they also need more data than what is required by traditional machine learning. Unfortunately, India has sparse data in sectors like agriculture, and this is already hampering AI-based businesses today.

In fact, the lack of data means that deep learning doesn't work for all companies in India. One example is Climate-Connect, a Delhi-based firm, which uses AI to predict the amount of power a solar plant will generate every 15 minutes. This is critical because solar electricity generation can change dramatically every hour depending on weather conditions and the position of the sun. When this happens, the plant must communicate expected changes to power distributors, which will then switch to alternative sources. With India planning to install 100 GW of solar power by 2022, such AI will play a central role in power planning.

But to generate such data, Climate-Connect needs historical inputs like the time of sunrise and sunset, and cloud cover where the plant is located. Unfortunately, since most Indian solar plants are recent, data are available only for a couple of years, whereas deep learning needs data over many years to predict generation. Today, the firm uses traditional machine learning technologies such as regression analysis that work with less data. These methods have an accuracy of around 95%. While deep learning can boost accuracy for operations such as Climate-Connect, it hasn't worked very well in the Indian scenario, says Nitin Tanwar, cofounder of the firm.

Another problem for AI firms today is finding the right people. NITI Aayog's report has bleak news: only about 50 Indian scientists carry out "serious research" and they are concentrated in elite institutions such as the Indian Institutes of Technology and the Indian Institutes of Science. Meanwhile, only about 4% of AI professionals have worked in emerging technologies like deep learning. A survey of LinkedIn found 386 out of the 22,000 people with PhDs in AI across the world to be Indians. How does this skill gap impact companies? To some extent, open libraries of machine learning code, which can be customised to solve Indian problems, help. This means that companies need not write code from scratch, and even computer science graduates can carry out the customisation.

Questions:

1. Which of the following is/are synonym/s of the word **bleak?**

I. Depressing
II. Dismal
III. Congenial
IV. Stark

A. Only III B. Only I and III C. Only I, II and IV D. Only II, III and IV
E. Only I, II and III

2. Which of the following is/are antonym/s of the word **sparse?**

I. Scant
II. Few
III. Sporadic
IV. Abundant

A. Only II B. Only IV C. Only I, II and IV D. Only I, II and III
E. Only II, III and IV

3. **What can be some steps that can be taken by India to improve its AI capabilities?**
I. The government must collect and digitize data it has access to due to running numerous schemes.
II. Set up institutes to churn out more skilled people in this field.
III. There should be adequate funding and also fixed deadlines to gauge performance.

A. Only I B. Only III C. Only I and II D. Only II and III
E. All of the above

4. **Which of the following weakens the argument for using more of AI powered tools in the future in India?**

I. The AI sector uses a tremendous amount of electricity so as to process huge amounts of data which is not sustainable.

II. It is tough to collect, validate, standardize, correlate, archive and distribute AI-relevant data and make it accessible to organizations, people and systems.

III. Although AI will create more jobs than it would destroy.

A. Only I   B. Only II   C. Only I and II   D. Only II and III

E. All of the above

5. **Which of the following statements weakens the argument about using 'Open Libraries' of machine learning code?**

A. They contain material that can be used to solve issues.

B. Using such libraries is not a difficult job and does not need a higher level of understanding of coding.

C. It is possible to do a respectable amount of machine learning without mathematics.

D. These are not helpful in cases where there is neither a fixed algorithm nor a standard procedure.

E. None of the above

6. **As per the passage, which of the following could be a/some reason/s for AI to be full of 'formidable obstacles'?**

I. The need for a huge amount of data to make predictions.

II. The entire chain of operation faces bottlenecks pertaining to funding

III. A scarcity of adequately qualified people in India.

A. Only II   B. Only I and III   C. Only II and III   D. Only III

E. All of the above

7. **As per your understanding of the passage, which of the following can be said to be example/s of AI usage in Industries?**

I. Data processing of students based on some parameters to find predictive patterns as to who would quit.

II. A Bank teller using computer to help solve customer queries with respect to their respective accounts.

III. Use of unmanned tanks, vessels, aerial vehicles and drones in the armed forces.

A. Only I   B. Only II   C. Only I and III   D. Only II and III

E. All of the above

Correct Answers:

1	2	3	4	5	6	7
C	B	E	A	D	B	C

Explanations:

1. *Bleak* means *barren/depressing*.

I, II and IV are synonyms.

Congenial means *friendly* and is the antonym.

Hence, I, II and IV are correct.

Option C is correct.

2. *Sparse* means *scanty/ in short supply*.

I, II and III are synonyms and incorrect.

Only IV- *abundant*- is the antonym here and means *plenty.*

Hence, option B is correct.

3. All of the statements are correct as all state valid ways of improving India's AI capabilities.

Hence, option E is correct.

4. Statement II is incorrect as it may be tough but not impossible. With proper planning and a scientific approach, this issue can be resolved.

Statement III is incorrect as it strengthens the argument for AI.

Statement I is correct. It weakens the argument as using a huge amount of electricity is not sustainable in the long run.

Hence, option A is correct.

5. Options A and B talk about advantages of open libraries and are incorrect.

Option C is incorrect as it simply states that it is possible to understand machine learning without needing mathematics.

Only option D fits in. If true, this weakens the point of using Open Libraries.

Hence, option D is correct.

6. Statement II has not been mentioned in the passage and is incorrect.

Refer to:

'The first problem is data. Machine learning, the set of technologies used to create AI, is a data-guzzling monster.'

'Another problem for AI firms today is finding the right people.'

Both statements I and III have been stated and are correct.

Hence, option B is correct.

7. Statement II is incorrect. There is no AI involved as the teller simply uses the computer to give out details of the customers' accounts.

Statements I and III are both correct. Both cases use data and robotics application.

Hence, option C is correct.

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