

CAT 2021 Expected/Predicted VARC Paper

The five sentences (labelled 1, 2, 3, 4, 5) given below, when properly sequenced would yield a coherent paragraph. Decide on the proper sequence of the order of the sentences and key in the sequence of the five numbers as your answer.

Question 1:

1. A few months ago I went to Princeton University to see what the young people who are going to be running our country in a few decades are like.
2. I would go to sleep in my hotel room around midnight each night, and when I awoke, my mailbox would be full of replies—sent at 1:15 a.m., 2:59 a.m., 3:23 a.m.
3. One senior told me that she went to bed around two and woke up each morning at seven; she could afford that much rest because she had learned to supplement her full day of work by studying in her sleep. Faculty members gave me the names of a few dozen articulate students, and I sent them e-mails, inviting them out to lunch or dinner in small groups.
4. As she was falling asleep she would recite a math problem or a paper topic to herself; she would then sometimes dream about it, and when she woke up, the problem might be solved.

Question 2:

1. Yet she appeared confident in innocence and did not tremble, although gazed on and execrated by thousands, for all the kindness which her beauty might otherwise have excited was obliterated in the minds of the spectators by the imagination of the enormity she was supposed to have committed.
2. A tear seemed to dim her eye when she saw us, but she quickly recovered herself, and a look of sorrowful affection seemed to attest her utter guiltlessness.
3. She was dressed in mourning, and her countenance, always engaging, was rendered, by the solemnity of her feelings, exquisitely beautiful.
4. She was tranquil, yet her tranquility was evidently constrained; and as her confusion had before been adduced as a proof of her guilt, she worked up her mind to an appearance of courage.
5. When she entered the court she threw her eyes round it and quickly discovered where we were seated.
6. The trial began, and after the advocate against her had stated the charge, several witnesses were called.

Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.

Question 3:

1. Over the past fortnight, one of its finest champions managed to pull off a similar impression.
2. Wimbledon's greatest illusion is the sense of timelessness it evokes.
3. At 35 years and 342 days, Roger Federer became the oldest man to win the singles title in the Open Era — a full 14 years after he first claimed the title as a scruffy, pony-tailed upstart.
4. Once he had survived the opening week, the second week witnessed the range of a rested Federer's genius.
5. Given that his method isn't reliant on explosive athleticism or muscular ball-striking, both vulnerable to decay, there is cause to believe that Federer will continue to enchant for a while longer. reality.

Question 4:

1. Those geometric symbols and aerodynamic swooshes are more than just skin deep.
2. The Commonwealth Bank logo — a yellow diamond, with a black chunk sliced out in one corner — is so recognisable that the bank doesn't even use its full name in its advertising.
3. It's not just logos with hidden shapes; sometimes brands will have meanings or stories within them that are deliberately vague or lost in time, urging you to delve deeper to solve the riddle.
4. Graphic designers embed cryptic references because it adds a story to the brand; they want people to spend more time with a brand and have that idea that they are an insider if they can understand the hidden message.
5. But the CommBank logo has more to it than meets the eye, as squirrelled away in that diamond is the Southern Cross constellation.

The passage given below is followed by four alternative summaries. Choose the option that best captures the essence of the passage.

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Question 5:

In the philosophy of the Vedanta, matter is not an entity isolated from the realm of eternity, but is merely an appearance of the Eternal through space, time and causation. The activities of the material world are all consciously directed towards the fulfilment of the cosmic purpose of self-realisation. Matter is not an unwilling self, but a willing cooperator in the grand scheme of the cosmos. Matter appears to be an impediment when the Spirit is forgotten, but when one consciously and deliberately puts forth efforts towards the realisation of the Spirit in one's own self, one would discover that the material universe becomes a stepping stone in the process of this grand ascent.

1. The material pursuits are a stepping stone to the ultimate realisation of self.
2. There is but a thin line of demarcation between the inert and the alert and ultimately both are a pre-requisite to the fulfillment of the real purpose in life.
3. Though material universe is not eternal, the spirit and the cosmic purpose are.
4. In the realm of Vedanta, material world is part of the grand scheme of things in which self-realisation is the ultimate purpose.
5. Vedanta defines matter as the expression of the spirit through space, time and causation.

Question 6:

North American walnut sphinx moth caterpillars (*Amorpha juglandis*) look like easy meals for birds, but they have a trick up their sleeves — they produce whistles that sound like bird alarm calls, scaring potential predators away. At first, scientists suspected birds were simply startled by the loud noise. But a new study suggests a more sophisticated mechanism: the caterpillar's whistle appears to mimic a bird alarm call, sending avian predators scrambling for cover. When pecked by a bird, the caterpillars whistle by compressing their bodies like an accordion and forcing air out through specialized holes in their sides. The whistles are impressively loud — they have been measured at over 80 dB from 5 cm away from the caterpillar — considering they are made by a two-inch long insect.

- A. North American walnut sphinx moth caterpillars will whistle periodically to ward off predator birds - they have a specialized vocal tract that helps them whistle.
- B. North American walnut sphinx moth caterpillars can whistle very loudly; the loudness of their whistles is shocking as they are very small insects.
- C. The North American walnut sphinx moth caterpillars, in a case of acoustic deception, produce whistles that mimic bird alarm calls to defend themselves
- D. North American. walnut sphinx moth caterpillars, in. a case of deception and camouflage, produce whistles that mimic bird alarm calls to defend themselves.

Passage 1:

The difficulties historians face in establishing cause-and-effect relations in the history of human societies are broadly similar to the difficulties facing astronomers, climatologists, ecologists, evolutionary biologists; geologists, and palaeontologists. To varying degrees each of these fields is plagued by the impossibility of performing replicated, controlled experimental interventions, the complexity arising from enormous numbers of variables, the resulting uniqueness of each system, the consequent impossibility of formulating universal laws, and the difficulties of predicting emergent properties and future behaviour. Prediction in history, as in other historical sciences, is most feasible on large spatial scales and over long times, when the unique features of millions of small-scale brief events become averaged out. Just as I could predict the sex ratio of the next 1,000 newborns but not the sexes of my own two children. the historian can recognize factors that made inevitable the broad outcome of the collision between American and Eurasian societies after 13,000 years of separate developments, but not the outcome of the 1960 U.S. presidential election. The details of which candidate said what during a single televised debate in October 1960 could have given the electoral victory to Nixon instead of to Kennedy, but no details of who said what could have blocked the European conquest of Native Americans.

How can students of human history profit from the experience of scientists in other historical sciences? A methodology that has proved useful involves the comparative method and so-called natural experiments. While neither astronomers studying galaxy formation nor human historians can

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manipulate their systems in controlled laboratory experiments, they both can take advantage of natural experiments, by comparing systems differing in the presence or absence (or in the strong or weak effect) of some putative causative factor. For example, epidemiologists, forbidden to feed large amounts of salt to people experimentally, have still been able to identify effects of high salt intake by comparing groups of humans who already differ greatly in their salt intake: and cultural anthropologists, unable to provide human groups experimentally with varying resource abundances for many centuries, still study long-term effects of resource abundance on human societies by comparing recent Polynesian populations living on islands differing naturally in resource abundance.

The student of human history can draw on many more natural experiments than just comparisons among the five inhabited continents. Comparisons can also utilize large islands that have developed complex societies in a considerable degree of isolation (such as Japan, Madagascar, Native American Hispaniola, New Guinea, Hawaii, and many others), as well as societies on hundreds of smaller islands and regional societies within each of the continents. Natural experiments in any field, whether in ecology or human history, are inherently open to potential methodological criticisms. Those include confounding effects of natural variation in additional variables besides the one of interest, as well as problems in inferring chains of causation from observed correlations between variables. Such methodological problems have been discussed in great detail for some of the historical sciences. In particular, epidemiology, the science of drawing inferences about human diseases by comparing groups of people (often by retrospective historical studies), has for a long time successfully employed formalized procedures for dealing with problems similar to those facing historians of human societies.

In short, I acknowledge that it is much more difficult to understand human history than to understand problems in fields of science where history is unimportant and where fewer individual variables operate. Nevertheless, successful methodologies for analyzing historical problems have been worked out in several fields. As a result, the histories of dinosaurs, nebulae, and glaciers are generally acknowledged to belong to fields of science rather than to the humanities.

7) Why do islands with considerable degree of isolation provide valuable insights into human history?

- (1) Isolated islands may evolve differently and this difference is of interest to us.
- (2) Isolated islands increase the number of observations available to historians.
- (3) Isolated islands, differing in their endowments and size may evolve differently and this difference can be attributed to their endowments and size.
- (4) Isolated islands, differing in their endowments and size, provide a good comparison to large islands such as Eurasia, Africa, Americas and Australia.
- (5) Isolated islands, in so far as they are inhabited, arouse curiosity about how human beings evolved there.

8) According to the author, why is prediction difficult in history?

- (1) Historical explanations are usually broad so that no prediction is possible.
- (2) Historical outcomes depend upon a large number of factors and hence prediction is difficult for each case.
- (3) Historical sciences, by their very nature, are not interested in a multitude of minor factors, which might be important in a specific historical outcome.
- (4) Historians are interested in evolution of human history and hence are only interested in long-term predictions.
- (5) Historical sciences suffer from the inability to conduct controlled experiments and therefore have explanations based on a few long-term factors.

9) According to the author, which of the following statements would be true?

- (1) Students of history are missing significant opportunities by not conducting any natural experiments.
- (2) Complex societies inhabiting large islands provide great opportunities for natural experiments.
- (3) Students of history are missing significant opportunities by not studying an adequate variety of natural experiments.
- (4) A unique problem faced by historians is their inability to establish cause and effect relationships.

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(5) Cultural anthropologists have overcome the problem of confounding variables through natural experiments.

Passage 2:

Fifteen years after communism was officially pronounced dead, its spectre seems once again to be haunting Europe. Last month, the Council of Europe's parliamentary assembly voted to condemn the "crimes of totalitarian communist regimes," linking them with Nazism and complaining that communist parties are still "legal and active in some countries." Now Goran Lindblad, the conservative Swedish MP behind the resolution, wants to go further. Demands that European Ministers launch a continent-wide anti-communist campaign — including school textbook revisions, official memorial days, and museums — only narrowly missed the necessary two-thirds majority. Mr. Lindblad pledged to bring the wider plans back to the Council of Europe in the coming months. He has chosen a good year for his ideological offensive: this is the 50th anniversary of Nikita Khrushchev's denunciation of Josef Stalin and the subsequent Hungarian uprising, which will doubtless be the cue for further excoriation of the communist record. Paradoxically, given that there is no communist government left in Europe outside Moldova, the attacks have if anything, become more extreme as time has gone on. A clue as to why that might be can be found in the rambling report by Mr. Lindblad that led to the Council of Europe declaration. Blaming class struggle and public ownership, he explained "different elements of communist ideology such as equality or social justice still seduce many" and "a sort of nostalgia for communism is still alive." Perhaps the real problem for Mr. Lindblad and his right-wing allies in Eastern Europe is that communism is not dead enough — and they will only be content when they have driven a stake through its heart.

The fashionable attempt to equate communism and Nazism is in reality a moral and historical nonsense. Despite the cruelties of the Stalin terror, there was no Soviet Treblinka or Sobibor, no extermination camps built to murder millions. Nor did the Soviet Union launch the most devastating war in history at a cost of more than 50 million lives — in fact it played the decisive role in the defeat of the German war machine. Mr. Lindblad and the Council of Europe adopt as fact the wildest estimates of those "killed by communist regimes" (mostly in famines) from the fiercely contested Black Book of Communism, which also underplays the number of deaths attributable to Hitler. But, in any case, none of this explains why anyone might be nostalgic in former communist states, now enjoying the delights of capitalist restoration. The dominant account gives no sense of how communist regimes renewed themselves after 1956 or why Western leaders feared they might overtake the capitalist world well into the 1960s. For all its brutalities and failures, communism in the Soviet Union, Eastern Europe, and elsewhere delivered rapid industrialization, mass education, job security, and huge advances in social and gender equality. Its existence helped to drive up welfare standards in the West, and provided a powerful counterweight to Western global domination.

It would be easier to take the Council of Europe's condemnation of communist state crimes seriously if it had also seen fit to denounce the far bloodier record of European colonialism — which only finally came to an end in the 1970s. This was a system of racist despotism, which dominated the globe in Stalin's time. And while there is precious little connection between the ideas of fascism and communism, there is an intimate link between colonialism and Nazism. The terms lebensraum and konzentrationslager were both first used by the German colonial regime in south-west Africa (now Namibia), which committed genocide against the Herero and Nama peoples and bequeathed its ideas and personnel directly to the Nazi party. Around 10 million Congolese died as a result of Belgian forced labour and mass murder in the early twentieth century; tens of millions perished in avoidable or enforced famines in British-ruled India; up to a million Algerians died in their war for independence, while controversy now rages in France about a new law requiring teachers to put a positive spin on colonial history. Comparable atrocities were carried out by all European colonialists, but not a word of condemnation from the Council of Europe. Presumably, European lives count for more.

10) Among all the apprehensions that Mr. Goran Lindblad expresses against communism, which one

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gets admitted, although indirectly, by the author?

- (1) There is nostalgia for communist ideology even if communism has been abandoned by most European nations.
- (2) Notions of social justice inherent in communist ideology appeal to critics of existing systems.
- (3) Communist regimes were totalitarian and marked by brutalities and large scale violence.
- (4) The existing economic order is wrongly viewed as imperialistic by proponents of communism.
- (5) Communist ideology is faulted because communist regimes resulted in economic failures.

11) What, according to the author, is the real reason for a renewed attack against communism?

- (1) Disguising the unintended consequences of the current economic order such as social injustice and environmental crisis.
- (2) Idealising the existing ideology of global capitalism.
- (3) Making communism a generic representative of all historical atrocities, especially those perpetrated by the European imperialists.
- (4) Communism still survives, in bits and pieces, in the minds and hearts of people.
- (5) Renewal of some communist regimes has led to the apprehension that communist nations might overtake the capitalists.

12) The author cites examples of atrocities perpetrated by European colonial regimes in order to

- (1) compare the atrocities committed by colonial regimes with those of communist regimes.
- (2) prove that the atrocities committed by colonial regimes were more than those of communist regimes.
- (3) prove that, ideologically, communism was much better than colonialism and Nazism.
- (4) neutralise the arguments of Mr. Lindblad and to point out that the atrocities committed by colonial regimes were more than those of communist regimes.
- (5) neutralise the arguments of Mr. Lindblad and to argue that one needs to go beyond and look at the motives of these regimes.

13) Why, according to the author, is Nazism closer to colonialism than it is to communism?

- (1) Both colonialism and Nazism were examples of tyranny of one race over another.
- (2) The genocides committed by the colonial and the Nazi regimes were of similar magnitude.
- (3) Several ideas of the Nazi regime were directly imported from colonial regimes.
- (4) Both colonialism and Nazism are based on the principles of imperialism.
- (5) While communism was never limited to Europe, both the Nazis and the colonialists originated in Europe.

14) Which of the following cannot be inferred as a compelling reason for the silence of the Council of Europe on colonial atrocities?

- (1) The Council of Europe being dominated by erstwhile colonialists.
- (2) Generating support for condemning communist ideology.
- (3) Unwillingness to antagonize allies by raking up an embarrassing past.
- (4) Greater value seemingly placed on European lives.
- (5) Portraying both communism and Nazism as ideologies to be condemned.

Passage 3:

Alas, the label "skeptic" has been misapplied to paranormal events. Since "skepticism" refers to doubt, not denial -- critics think negatively but still call themselves "skeptics" and have gained unfairly by that label.

In science, the more extraordinary a claim, the heavier the burden of proof. The true skeptic thinks agnostically, saying the claim is *not proved* rather than *disproved* and asserts that the claimant has not given proof and that science must continue without incorporating the new claim. Since the true skeptic does not assert a claim, he has no burden to prove anything. He goes on using the established theories of "conventional science". But if a critic asserts that he has a *negative*

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hypothesis -- saying, for instance, that a seeming psi result was actually due to an artifact -- he is *making a claim* and therefore also has to bear a *burden of proof*.

Critics who assert negatively, but who mistakenly call themselves "skeptics," often act as though they have no burden of proof. Thus, many critics feel it is only necessary to prove their counter-claims based upon plausibility rather than empirical evidence. Thus, if a subject in a psi experiment had an opportunity to cheat, many critics assume he must have, regardless of any absence of evidence, even ignoring the subject's past honesty. Similarly, improper procedures are sometimes assumed to cause a subject's high psi scores. Discovering an opportunity for error should make such experiments less evidential and convincing. It usually disproves the claim that the experiment was "air tight" against error, but it does not *disprove* the anomaly claim.

Unconvincing evidence does not completely dismiss it. If a critic attributes a result to artifact X, he must demonstrate that artifact X can and probably did produce such results. In some cases, the appeal to mere plausibility may be so great that nearly all would accept the argument; for example, when someone known to have cheated in the past had an opportunity to cheat in this instance, we might reasonably conclude he probably did this time, too. But in many instances, the critic closes the door on future research when science demands hypothesis testing. Alas, most critics seem content in their armchairs producing *post hoc* counter-explanations but science best progresses through investigations.

Contrarily, proponents who recognize the above fallacy go too far in the other direction. Some argue that wigs do not deny the existence of real hair. We must remember science can tell us what is empirically unlikely but not what is empirically impossible. Evidence is always a matter of degree and is seldom conclusive. Some proponents seem unwilling to consider evidence in probabilistic terms and cling to any slim loose end. Both critics and proponents need to think of adjudication in science as in the law courts, imperfect and with varying evidence. Absolute truth, like absolute justice, is seldom obtainable. We can only do our best to approximate them.

15) Which of the following is the clearest distinction between a claim not proved and a claim disproved?

1. A claim disproved represents a claim proved to be wrong, while a claim not proved means there is not enough evidence to support it.
2. A claim not proved represents a claim proved to be wrong, while a claim disproved means there is not enough evidence to support it.
3. A claim not proved is the mark of a true skeptic, while a claim disproved is the mark of a pseudo-skeptic.
4. A skeptic who proposes a negative hypothesis makes a claim not proved, while who makes a positive hypothesis makes a claim disproved.

16) This reading selection could have been a part of which of the following?

1. Journal of Science Policy Studies
2. Journal of Science Research
3. Abstract of Readings on Scientific Methodology Correct Answer.
4. Proceedings of the Society of Science Educators

17) Which one of the following is a problem with the critics as per the writer?

1. They generally invoke actual physical evidence to disprove a claim.
2. They call themselves skeptics, while in fact, they are not.
3. They pay attention to the absence of physical evidence.
4. They give more credence to the plausibility of an event.

18) The author, in the last two paragraphs, tries to

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1. effect a compromise by proposing a via media between the opposing viewpoints
2. make a case for accepting approximate evidence as the guiding criterion for accepting something as true
3. make a case against armchair critics, who hardly consider empirical evidence while evaluating anomaly claims
4. reason that there is nothing like absolute truth in either science or justice

Passage 4:

Autism has a strong genetic component: With one identical twin autistic, the other has a 70 percent chance of having it, a risk 10 times that of fraternal twins. Yet great, unsuccessful effort has been spent looking for its genetics. To Wigler, the key lies in spontaneous mutations — novel alterations in the parental germ line of the offspring. Last year he formed a controversial theory for it. It suggests that females, who develop autism with a 1/4th frequency with which males do, may carry the genetic profile for it.

Wigler attributes the failure of conventional studies to their studies on families with more than one autistic child to search for differences in one genetic base. These differences could be any alteration in a base called SNPs. Uncovering SNPs shared by affected people would uncover high-risk people. The problem is locating the same target: they have implicated loci on 20 of the 23 human chromosomal pairs.

In his first autistic research, Wigler, with Sebat, tried to determine the role of spontaneous mutations, called copy number variations. Before human genome sequencing, researchers thought an individual always had two copies of a gene. In 2004, the team showed that even in healthy individuals, they could go missing from (or be added to) the genome via genetic rearrangements. Studies on families with only one autistic member showed that up to 10 percent of non-inherited autism cases could be caused by these rearrangements. They found that the structural events were primarily deletions, leaving individuals with only one copy of a particular gene and leading, sometimes, to its functional disruption.

Later, Wigler unveiled a unified genetic theory, which he cobbled together by examining families with multiple autistic individuals and incorporating both hereditary and spontaneous events. Focusing on families with the first two children affected, he found that third-born male children have a 50 percent risk of acquiring the disorder, whereas the risk for third-born girls is closer to 20 percent. From there, Wigler developed a two-tiered hypothesis: The majority fall into the low-risk category, having spontaneous mutation. Contrarily, high-risk families — 25 percent of all, manifest the disease when an unaffected individual, mostly female, carries a sporadic mutation. In case of a male, the chances are roughly half.

Although Wigler's model is seen as a simpler way to view the genetics of autism, others find it incomplete. Critics note that it does not explain observations of families with an autistic child in which either second- or third-degree relatives are also affected or in which first-degree relatives show mild symptoms. And the model fails to explain why girls do not get autism as frequently as boys. Wigler believes that more data might help prove him. For instance, the girl-boy discrepancy could be explained if the genetic modifiers are sex-specific, an effect that might become apparent if researchers look at cases in which a normal mother has an autistic daughter.

19) Which of the following is a major problem in uncovering the genetic basis of autism in terms of the conventional approach?

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1. Too many chromosomes are responsible for it.
2. There is great, complex interaction among different chromosomes responsible for autism, which is not amenable to studies.
3. There is no clarity as to which chromosome is responsible for autism
4. Not enough subjects are available for studies.

20) Which of the following purposes is served by the first paragraph in relation to the passage as a whole?

1. It sums up a major point of discussion, which is then explained by the rest of the passage.
2. It sums up a major point of discussion, with the rest of the passage trying to explain why the efforts to decode autism have been unsuccessful.
3. It discusses Wigler's work and how it has been instrumental in accounting for genetic basis of autism.
4. It highlights a major point i.e. females carry autism more frequently, and the rest of the passage discusses the reasons for it.

21) Which of the following is most correct in the context of the above passage?

1. High-risk families often have a male carrying a sporadic mutation leading to autism.
2. An individual having a functional disruption in a single gene, because the other copy has been deleted, is a very common occurrence.
3. The unified genetic theory of autism combines elements from two different theories and gives an integrated picture.
4. In case of families with multiple affected members, the males have a greater risk of being autistic as compared to females.

22) Which of the following could have been the most suitable title for the above passage?

1. Autistic Research: Some New Trends
2. Wigler's Work on Autism: Some Unanswered Questions
3. The Genetic Basis of Autism: Wigler's Work
4. The Failure of Conventional Studies on Autism