

ANSWERS

1. Ans: B

Sol. Confounds and artifacts are the two kinds of threats to the validity of socio-psychological research. The major threats to internal validity are history, maturation, testing, instrumentation, statistical regression, selection, experimental mortality, and selection-history interactions. Matching and randomization doesn't vary the treatment and outcome of the research.

2. Ans: D

Sol. The variable that is changed in an experiment is called the manipulated variable. Sometimes, it is also called as independent variable.

3. Ans: B

Sol. Printed study guide has an instructional material in the form of notes from a particular topic.

Audio podcast is the material which contains the useful information in audio form. YouTube video is the medium through which the instructional material is provided in the form of audio as well as video.

So, option B Overhead projector is not an instructional material.

4. Ans: C

Sol. Although it is possible to carry out experiments in all the given field of studies, experiments in science offer more organized methods for analysing the cause and effect relationship.

5. Ans: C

Sol. Comparison, control, manipulation and generalization are essential to research design. But reactivity in research is caused when participant is aware of the research purpose. We seek representativeness in a good research design, not non-representativeness.

6. Ans: C

Sol. The quality of teaching can be reflected in a best way through the quality of questions asked by the student. Quality of student's

questions reflect the interest level and curiosity level of a student during teaching learning process. The questions of the students give teacher an idea about how much their student is grasping the content taught by the teacher which further allows teacher to improve their teaching skills in order to make teaching more effective. Quality questions asked by the students ensure effective teaching learning process.

7. Ans: C

Sol. Choice Based Credit System is the method in which the student can choose his/her course from the prescribed curriculum. The advantage of Choice Based Credit System is to shift in focus from teacher-centric education. In this, the student can opt for the elective course based upon his/her interest.

8. Ans: D

Sol. Formulation of research problem should be based upon a specific problem on which a researcher wants to work. The researcher must be clear about the specific questions. A conceptual model should be framed through which hypothesis can be formed. The main objective of the research is to resolve the problem and focus on solutions to ensure a productive output. The negativity should not be the factor for formulation of a research design. So, option A, B, C and F are true.

9. Ans: B

Sol. As a teacher while preparing them for debate it is very difficult to develop in student how to control over emotions during debate because during debate activity student have to argue over opposite viewpoint and in this condition for proving correct for themselves student go deep inside the topic and sometimes divert from the topic which leads to arguments over the topic so, it is the biggest demerit of debate that student lost his control over their emotions.

10. Ans: A

Sol. The four major operations in scientific research is:

(i) Demonstration of co-variance: Covariance is the measure of the change of one variable with the change in the second variable. The scientific research demonstrates the effect of co-variance.

(ii) Elimination of spurious relations: It is really important operation in scientific research. The relation between the variables should be valid and logically, nothing suspicious should be there.

(iii) Sequencing in terms of time-order: Every research should be in time order.

(iv) Theorisation: To provide relevant theory is the other operation of scientific research.

11. Ans: B

Sol. According to the passage, "Beyond physical linkages, digital connectivity is the new frontier in the Fourth Industrial Revolution. India has made great progress in innovation, Start-ups and **digital inclusion**. There are opportunities to apply initiatives such as **Aadhaar** in our region. **E-commerce and FinTech** are two other areas of potential collaboration. Thus, option B is the correct answer.

12. Ans: B

Sol. According to the passage, "In 1991, when the Cold War ended and **India began its economic liberalization**, Singapore saw an opportunity to deepen ties and build on its historical and cultural links with the Asian region." Note that the end of the Cold War prompted the economic liberalization in India, which in turn prompted Singapore to opt for stronger ties with India. So, the end of the Cold War did not the reason behind Singapore to opt for stronger ties with India.

13. Ans: B

Sol. According to the passage, "While one can fly directly between India

and several ASEAN countries, there is still much room to **expand air links to support growing business and tourism.**" Thus, option B is the correct answer.

14. Ans: D

Sol. According to the passage, "ASEAN is committed to **strengthening land, air and sea linkages with India.**" All these linkages can be categorized as transportation links; thus, option D is the correct answer.

15. Ans: D

Sol. According to the last few lines of the passage, "As an economic hub, Singapore can serve as a springboard (launchpad) to launch these ideas to Southeast Asia and beyond. India's role in ASEAN should be anchored by growing economic ties with Singapore. Thus, Singapore can be India's Launchpad for an integrated Asian market as per the passage.

16. Ans: D

Sol. Aravalli Hills, Nilgiri Hills and Shivalik Hills are in India. Mount Kilimanjaro is in Tanzania (Continent: Africa). It is the highest mountain in Africa.

17. Ans: C

Sol. The logic behind the series is:

The letters in each term are consecutive.





For e.g. DEF is consecutive, HIJ in the similar way.

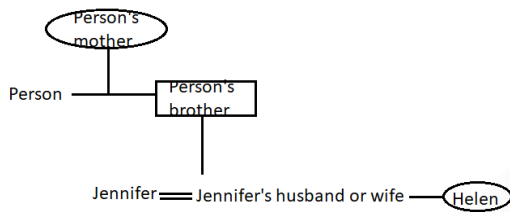
D	E	F
+4	+4	+4
H	I	J
+4	+4	+4
L	M	N
+4	+4	+4
P	Q	J
+4	+4	+4
T	U	V
+4	+4	+4
X	Y	Z

So, 'XYZ' is the correct answer to the series.

18. Ans: C

Sol. Let us follow the family tree:

Symbol in diagram	Meaning
	Female
	Male
	Married Couple
	Siblings
	Difference of a generation



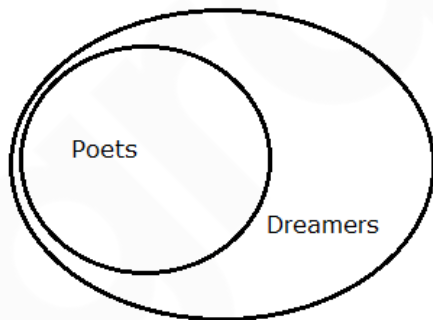
So, Helen is the sister-in-law of Jennifer.

19. Ans: D

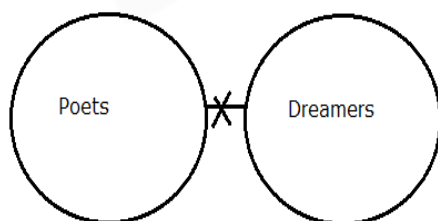
Sol. In the digital era, there is a fear that classroom communication may result in over stimulation.

20. Ans: B

Sol. All poets are dreamers



No poets are dreamers



These two cannot be true together but together can be possibly false.

21. Ans: A

Sol. Non-verbal communication is considered as informal communication. Non-verbal communication includes the communication through facial expressions, gestures, tone and pitch of the voice.

22. Ans: C

Sol. Negative criticism as an element of classroom communication will lead to De-motivation.

The negativity will definitely demotivate the student, making it defensive to ask questions in the class.

So, Defensiveness is also the outcome of negative criticism in the classroom. The other factor that negative criticism leads to is justification.

So, Option C is correct.

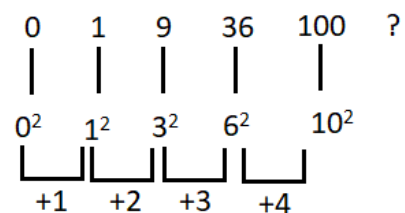
23. Ans: B

Sol. Teacher communication is a central to classroom management. As a teacher, we already know that there are three components in teaching learning process i.e. teacher, student and the communication between them. Communication is the process through which a teacher delivers his instructions whether orally, written or in signs. It is the teacher who regulates his/her class upon the basis of his knowledge and that knowledge can deliver through the interaction between him and his students. So, Assertion is right.

Here given R reason is false because it is the behaviour of teacher which can be used for regulating the behaviour of his/her student. It is the way of communication through which a teacher wants to deliver his ideas, knowledge or command. It is the strategies of a teacher through which he/she delivers his ideas to student it is his body language and gestures which guides the behaviour of students.

24. Ans: B

Sol. The pattern followed is:

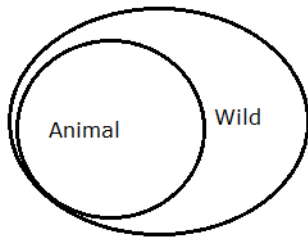


Here the addition '+1', '+2', '+3' and '+4' has been shown only for the terms 0, 1, 3, 6 and 10.

Hence, the next term which should be added as per the pattern will be +5 i.e., $10 + 5 = 15$ and $15^2 = 225$. Hence, '225' is the correct answer.

25. Ans: C

Sol. All animals are wild



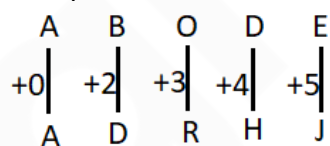
As all animals are wild, so all negative statements will be wrong. So, option A, B and D have negative statements, so all are not true. Only statement that can be true is Option C. As all animals are wild, some animals are wild can be inferred.

26. Ans: A

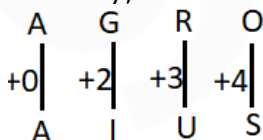
Sol. Truth and falsity are the attributes of Propositions. A proposition is a sentence which is either true or false. If a proposition is true, then we can assume that its truth value is true, and if a proposition is false, we can assume its truth value is false. So, this statement can either be true or false.

27. Ans: B

Sol. The pattern followed is:



Similarly,

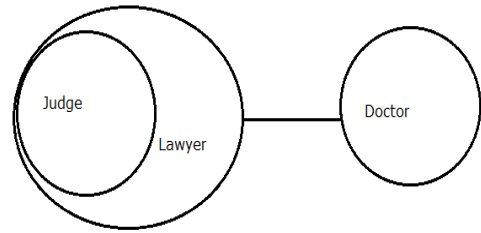


Hence, 'AGRO' will be coded as 'AIUS'.

28. Ans: C

Sol. (a) All judges are lawyers.

(b) No doctors are lawyers.



(i) No lawyers are doctors is true as no doctors are lawyers, so no lawyer is doctor.

(ii) No doctors are judges is true as all judges are lawyers and no doctor are lawyer, so no doctor is judge.

(iii) All lawyers are judges is not true some lawyers can be judges but all lawyers cannot be judges.

(iv) Some doctors are judges is not true as no doctor is lawyer and all judges are lawyers, so some doctors cannot be judges.

29. Ans: B

Sol. An argument must be valid:

(i) When its conclusion and premises are true.

Ex. Premise: All egg is round.

Conclusion: Some round is egg.

(ii) Even when its conclusion and one or more of its premises are false.

30. Ans: C

Sol. The rhetorical approach in classroom communication considers teachers as influencing agents of students. It is the teacher who regulates his/her class upon the basis of his knowledge and that knowledge can only be delivered through the interaction between the teacher and students.

31. Ans: A

Sol. **In the year 2000**, In State D % of villages not electrified is given 60%.

In the year 2010, In State D

Total number of villages = 20,000

Number of villages not electrified = 10,000

Therefore, % of villages not electrified = $(10,000/20,000) * 100 = 50\%$
Thus, it came down from 60% to 50%.

32. Ans: A

Sol. We can construct the following table using the equation that, $100\% = \% \text{ of villages not electrified} + \% \text{ of villages electrified}$.

State	% of villages not electrified	% of villages electrified
A	25%	75%
B	45%	55%
C	20%	80%
D	60%	40%
E	55%	45%
F	30%	70%

% of villages electrified in State D is 40%. Twice of which is 80% which is in State C.

33. Ans: A

Sol. We can construct the following table using the equation that, 100% = % of villages not electrified + % of villages electrified.

State	% of villages not electrified	% of villages electrified
A	25%	75%
B	45%	55%
C	20%	80%
D	60%	40%
E	55%	45%
F	30%	70%

Using the above table, we can see that, State A, B, C and F, a total of 4 States have at least 50% or more electrified villages.

34. Ans: C

Sol.

State	% of villages not electrified	% of villages electrified
A	25%	75%
B	45%	55%
C	20%	80%
D	60%	40%
E	55%	45%
F	30%	70%

State A, total population was 5 lakhs, now the number of villages without electricity = 25% of 5 lakhs = 1.25 lakhs villages

State B, total population was 2 lakhs, now the number of villages without electricity = 45% of 2 lakhs = 90,000 villages.

So, Number of villages that are not electrified is higher in State A.

So, option C is correct.

35. Ans: A

Sol. If the population for State A is 2.6 lakhs, and 25% of the villages are not electrified,
So, 25% of 2.6 lakhs = 0.39 lakhs.
So, option A is correct.

36. Ans: D

Sol. Rashtriya Uchchar Shiksha Abhiyan (RUSA) was launched in 2013 with the purpose to provide strategic funding to eligible state higher educational institutions. The objectives of Rastriya Uchchar Shiksha Abhiyan (RUSA) are:

1. To improve the quality of state institutions by ensuring conformity to laid norms and standards.

2. To adopt accreditation as a quality assurance framework. It aims to provide equal development to all higher institutions and to rectify the weaknesses or loopholes in the higher education system.

3. To create new institutes by upgrading the existing autonomous colleges.

37. Ans: A

Sol. Biomass power is the renewable source that can generate power with minimum cost.

Biomass is the waste product of the animals and plants that can be used for energy production in the industrial processes with very less cost.

38. Ans: B

Sol. Bug is a term used in a computer science to denote an error in a particular program that is used to run a software.

39. Ans: B

Sol. National Knowledge Commission (NKC) was established in the year 2005. This commission was constituted by Former Prime Minister Dr. Manmohan Singh. The main aim was to recommend different education reforms that can be implemented to make the work more efficient and transparent.

40. Ans: C

Sol. A small text file stored on user's computer by some websites in order to recognize and keep track of user's preferences is called cookie. Cookie store some data that might be specific to a particular client.

41. Ans: C
Sol. Audio file formats are:
(a) .wav – Waveform Audio File Format
(b) .aac – Advanced Audio Coding
(c) .wmv – Windows Media Video
(d) .flv – Flash Live Video
So, only option (a) and (b) are audio file formats others are video formats.
42. Ans: A
Sol. Thermal difference between land and water is the only reason for high annual range of temperature in the interior of the continents as compared to coastal areas.
43. Ans: A
Sol. In a computer, if 8 bits are used to specify address in memory, the total number of addresses will be $2^{\text{bits}} = 2^8 = 256$ addresses.
44. Ans: A
Sol. The University Grants Commission (UGC) was formally inaugurated on 28 December 1953 by Sh. Maulana Abdul Kalam Azad, First Education Minister of India.
45. Ans: B
Sol. Fossil fuel is one of the reasons through carbon is added to the atmosphere. As per GCP Report, 6-9 billion of carbon is added by burning of fossil fuels in the atmosphere.
46. Ans: A
Sol. The University Grants Commission has a scheme for "Human Rights and values in Education". Under this scheme, there is a provision to encourage the research activities in the higher institutes.

The other guidelines listed are to develop interaction between society and educational institutions and to sensitize the citizens so that the norms and values of human rights are realized. To establish value and wellness centres in school is not a component listed in 'Human Rights & Duties Education' scheme.

47. Ans: D
Sol. Natural vegetation of an area needs to be preserved for the future, mainly for the purpose of providing material for breeding new species and to maintain the ecosystem cycle.
48. Ans: C
Sol. The output quality of a printer is measured by DPI. DPI stands for Dots per inch, in which the quality of the printer is being measured.
49. Ans: B
Sol. The tropical western Ghats are situated in the state of Kerala. These tropical western Ghats covers the state of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat. So, option B is correct.
50. Ans: D
Sol. In 1964, an education commission was set up under the Chairmanship of Dr. DS. Kothari. This commission laid down the principles and guidelines for the development of the education from the primary to higher level.