

UGC NET PAPER-1

GENERAL APTITUDE

Solved Paper December 2019

Time Allotted: 1 Hour

Maximum Marks: 100

Important Instructions:

1. Each question carries 2 marks.
2. This paper consists of fifty (50) multiple-choice type of questions.
3. Each item has four alternative responses marked (a), (b), (c) and (d). You have to darken the oval as indicated below on the correct response against each item.
Example: where (c) is the correct response.
4. Your responses to the items are to be indicated in the **Answer Sheet**.
5. **Use of any calculator or log table etc., is prohibited.**
6. **Negative Marking: For each incorrect answer 0.5 marks shall be deducted.**

1. Identify those features of learner behaviour which are associated with understanding level teaching:
 1. The student renders facts and information in his/her own words
 2. The student immediately recalls the facts taught
 3. The student gives his/her own examples in order to explain a point
 4. The student interprets the meanings in various ways
 5. The student correctly reproduces the sequences taughtSelect your answer from the following options:
(a) 1, 2 and 3 (b) 2, 3 and 4
(c) 2, 4 and 5 (d) 1, 3 and 4
2. Which of the following sequences depicts outcome based curriculum design for college level teaching programmes?
 - (a) Content, teaching-learning, learning outcomes, evaluation.
 - (b) Desired learning outcomes, contents, teaching-learning, assessment and evaluation.
 - (c) Teaching-learning, content, learning outcomes, assessment and evaluation.
 - (d) Content, learning outcomes desired, teaching-learning, evaluation and assessment
3. Which of the following is a key to effective teaching behaviour?
 - (a) Teacher mediated dialogue which helps learners restructure what is being learned.
 - (b) Eliciting clarification of an answer given by students.
 - (c) Soliciting additional information about a response of students.
 - (d) Promoting low error rate (high success) contributes to increased levels of students' self esteem and positive attitude.
4. For encouraging 'learning to learn', the emphasis on which of the following would be most appropriate?
 - (a) Use of educational technology gadgets
 - (b) Organizing teaching to increase opportunity for transfer of learning
 - (c) Assigning tasks to be mastered by students
 - (d) Frequent tests to be conducted
5. In which of the following modes of assessment the potential for increasing intrinsic motivation is optimum?
 - (a) Formative assessment based evaluation
 - (b) Computer testing based assessment
 - (c) Summative assessment
 - (d) Norm-referenced based testing assessment
6. In which of the following research methods, an empirico—inductive paradigm is employed?
 1. Ethnographic probe
 2. Case study method
 3. Ex post facto method
 4. Narrative method
 5. Experimental methodSelect your answer from the options given below:
(a) 1, 2 and 3 (b) 2, 3 and 4
(c) 1, 2 and 4 (d) 3, 4 and 5

7. The probability sampling procedures are mostly used in which of the following researches?
1. Survey researches
 2. Experimental researches
 3. Phenomenology based researches
 4. Action researches
 5. Correlational design based researches
- Select your answer from the following options:
- (a) 1, 2 and 5 (b) 1, 2 and 3
(c) 2, 3 and 4 (d) 3, 4 and 5
8. The style of writing a thesis and research article has to be
- (a) Creative in so far as diction is concerned
 - (b) Scientific in respect of language used
 - (c) Mechanical in so far as placement of figures and tables is concerned
 - (d) Variable in respect of referencing
9. The application of which of the following ICT in research will ensure wider coverage and accessibility of needed information?
- (a) LAN (b) WAN
 - (c) Skype (d) Intranet
10. A researcher while reporting his/her research findings gives weightage to stake holder's perspective in a qualitative research theme. This will involve
- (a) Violation of ethical norms
 - (b) Bias and prejudices
 - (c) Disclosure of reality situation
 - (d) Inappropriate interference of others in research
11. In the linear model of communication, the expected result is
- (a) Psychological disruption
 - (b) Removal of physical noise
 - (c) High level of obstruction
 - (d) Semantic accuracy
12. An important element in classroom communication is
- (a) Physical infrastructure
 - (b) Fields of experience
 - (c) Conditioned feedback
 - (d) Linearity of message
13. The concept of proximal development, related to educational communication, was developed by
- (a) Sigmund Freud (b) Kurt Lewin
 - (c) Lev Vygotsky (d) Alberk Bandura
14. Effective oral communication demands
1. Self-confidence
 2. Long pauses
 3. Consistent practice
 4. Business like approach
 5. Knowing the audience
 6. Aggressive questioning
- Choose the correct answer from the following option:
- (a) 2, 3 and 4 (b) 3, 4 and 6
(c) 4, 5 and 6 (d) 1, 3 and 6
15. Given below are two statements-one is labelled as Assertion (A) and the other is labelled as Reason (R):
- Assertion (A):** The spoken and written words are two media of many available for communication in the classroom
- Reason (R):** Communication through any medium does not happen through attitudes of encoders
- In the light of the above two statements choose the correct option from the choices given below:
- (a) Both (A) and (R) are true and (R) is the correct explanation of (A)
 - (b) Both (A) and (R) are true, and (R) is not the correct explanation of (A)
 - (c) (A) is true, but (R) is false
 - (d) (A) is false, but (R) is true
16. If A is directly proportional to B; B is inversely proportional to C and C is directly proportional to D, then
1. A is inversely proportional to D
 2. A is directly proportional to D
 3. A is directly proportional to C
 4. A is inversely proportional to C
- Choose the correct answer from the options given below:
- (a) 1 and 4 (b) 2 only
(c) 1 only (d) 3 and 4
17. Average of two numbers a and b is 22 and 60% of $a = 50\%$ of b . What is the product of a and b ?
- (a) 160 (b) 384
 - (c) 480 (d) 484

18. B is the only daughter of the Maternal grandmother of A. How is A related to B?
 (a) Sister (b) Daughter
 (c) Cousin (d) Mother
19. In a certain code "CREDIT" is written as "EPGBKR" and in the same code, "DEBIT" will be written as
 (a) FDCGV (b) FGCDV
 (c) FCDGV (d) FCDVG
20. The next term of the series is
 1D3, 3H5, 5L7, _____
 (a) 7 P 9 (b) 7 R 9
 (c) 7 N 9 (d) 7 L 9
21. The attributes shared by all and only those objects to which a term refers is known as
 1. The intention of a term
 2. Connotation
 3. Denotation
 4. The extension of a term
 Choose the correct code from below:
 (a) 4 only (b) Both 1 and 2
 (c) Both 3 and 4 (d) 3 only
22. According to traditional square of opposition if two propositions are so related that they cannot both be false, although they may both be true is called:
 (a) Subaltern (b) Subcontraries
 (c) Contradictory (d) Contrary
23. An informed fallacy in which the conclusion of an argument is stated or assumed in any one of the premises is known as:
 1. Begging the question
 2. Circular argument
 3. Ignoratio elenchi
 4. Petitio principii
 Choose the correct option from the following:
 (a) 1, 2 and 4 (b) 1 and 3
 (c) 3 only (d) 2, 3 and 4
24. Which of the following is not correct with reference to Anumana according to classical Indian school of logic?
 (a) Linga/Sadhana is the middle term
 (b) Paksa is the minor term
 (c) Sadhya is the major term
 (d) Hetu is the minor term

25. Given below are two premises with four conclusions drawn from them. Which of the following is a valid conclusion drawn from the premises?

Premises:

- (i) All diaries are copies
 (ii) No copy is book

Conclusions:

1. Some diaries are books
 2. Some books are copies
 3. No book is copy
 4. No diary is book

Choose the correct option.

- (a) 1 and 2 (b) 3 and 4
 (c) 2 and 3 (d) 1 and 4

Direction for questions 26 to 30:

Consider the table given below for total exports of six countries over five years (in crores of rupees):

Country/ Year	2008	2009	2010	2011	2012
A	20	40	60	45	90
B	30	25	15	50	100
C	50	55	70	90	65
D	45	60	20	15	25
E	60	50	55	100	110
F	24	40	60	75	120

Assume: Profit = Export – Import.

26. What was the profit of all the countries together in the year 2012 if the total imports of all the countries together was rupees 385 crore?
 (a) Rupees 510 crores (b) Rupees 280 crore
 (c) Rupees 160 crore (d) Rupees 125 crore
27. If the ratio of export to import in country F and country D are 4:1 and 1:2 respectively in the year 2008, then what is the total import of country F and D together in that particular year? (in crores of rupees)
 (a) 44 (b) 65
 (c) 92 (d) 96
28. If the export of country A in the year 2013 is 20% more than the total export of country B in 2011 and the export of country E in 2010 together, then what was the profit of A in the year 2013 if its import was ₹ 92 crore for that year? (In crores of rupees)
 (a) 10 (b) 22
 (c) 34 (d) 46

29. By what percent is the average export of country E over all the given years more than the average export of country C over all the years?

- (a) $13\frac{7}{11}\%$ (b) $14\frac{7}{11}\%$
 (c) $13\frac{5}{7}\%$ (d) $14\frac{5}{7}\%$

30. What is the percentage increase in the export of all the countries together from the year 2009 to 2011?

- (a) $35\frac{8}{9}\%$ (b) $38\frac{8}{9}\%$
 (c) $40\frac{8}{9}\%$ (d) $38\frac{7}{8}\%$

31. _____ represents raw facts, whereas _____ is processed meaningful data.

- (a) Information, Bits
 (b) Records, Bytes
 (c) Data, Information
 (d) Information, Reporting

32. Which of the following storage devices stores the maximum amount of data?

- (a) Compact disc (b) Floppy disc
 (c) Hard disc (d) Magnetic optic disc

33. Which of the following is a computer based system that stores and manipulates data which are viewed from a geographical point or reference?

- (a) Database System
 (b) Geographical Information System
 (c) Geographic System
 (d) Software System

34. VDU stands for

- (a) Virtual Display Unit
 (b) Virtual Detection Unit
 (c) Visual Display Unit
 (d) Visual Detection Unit

35. International Computer Security Day is observed on

- (a) 18th July (b) 30th November
 (c) 2nd December (d) 23rd December

36. Given below are two statements—one labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A): The impact of natural disasters does not depend on socio-economic factors.

Reason (R): Natural disasters do not discriminate between people of a society and other communities.

In the light of the above two statements, choose the correct option:

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (b) Both (A) and (R) are true and (R) is not the correct explanation of (A)
 (c) (A) is true but (R) is false
 (d) (A) is false but (R) is true

37. Under Kyoto Protocol, the first commitment period for reduction of greenhouse gas emissions by 37 industrialized and European community countries was:

- (a) 1997-2005 (b) 2000-2012
 (c) 2008-2012 (d) 2005-2015

38. Exposure to noise pollution cause

1. Weakening of immune system
2. Sleeplessness
3. Speech interference
4. Increase in blood pressure
5. Shift in threshold of hearing
6. Respiratory problems

Choose the correct option from those given below:

- (a) 1, 2, 3, 4 and 5 (b) 2, 3, 4 and 5
 (c) 2, 3, 4, 5 and 6 (d) 1, 2, 3, 4, 5 and 6

39. The potential of geothermal power in India is approximately

- (a) 10 GW (b) 5 GW
 (c) 20 GW (d) 25 GW

40. Which of the following air pollutants are produced from room deodorizers?

- (a) Inhalable particulate matter
 (b) Carbon monoxide
 (c) Ozone
 (d) Volatile organic compounds

41. Given below are the statements—one is labelled as Assertion (A) and the other is labelled as Reason (R):

Assertion (A): Considering higher education as a non priority for the state is linked to the withdrawal of public funding to it.

Reason (R): The pressure of free enterprise system in this regard is an attempt to expand their educational market.

In the light of above two statements, choose the correct option:

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (b) Both (A) and (R) are true and (R) is not the correct explanation of (A)
 (c) (A) is true, but (R) is false
 (d) (A) if false, but (R) is true
42. The community colleges have provisions for
 (a) Single admission
 (b) Concurrent admission
 (c) Self-financing system
 (d) Teaching at home
43. An institution desirous of applying for deemed to be university status must have been in existence for at least
 (a) 5 Years (b) 10 Years
 (c) 20 Years (d) 25 Years
44. The WTO negotiation on higher education deals with issues like:
 1. education as a free service
 2. vigorous social affirmation in developed countries
 3. assigning important role for civil society
 4. education as a trade
 5. education as a commodity
 6. withdrawal of public sector from higher education
- Choose the correct answer from the options given below:
 (a) 1, 3 and 4 (b) 1, 2 and 4
 (c) 2, 3 and 5 (d) 4, 5 and 6
45. The objective of Indian Government behind setting up of HEFA (Higher Education Finance Agency) is to provide financial support for:
 (a) Improvement of infrastructure is premier institutions of the country
 (b) Research projects of faculty
 (c) Research collaboration between Indian and Foreign Universities
 (d) Research collaboration between Indian Institutions and Industry

Direction for questions 46 to 50:

Read the following passage carefully and answer the questions that follows:

Under the labour theory of value, the value or price of a commodity depends exclusively on the amount of labour going into the production of the commodity. This implies that either labour is the only factor of production or labour is used in the same fixed proportion in the production of all commodities and that labour is homogeneous, *i.e.*, of only one type. Since neither of these assumptions is true, we cannot base the explanation of comparative advantage on the labour theory of values specifically, labour is not the only factor of production, nor is it used in the same fixed proportion in the production of all commodities. For example, much more capital equipment per worker is required to produce some products, such as steel, than to produce other products such as textile. In addition, there is usually some possibility of substitution between labour, capital and other factors in the production of most commodities. Furthermore, labour is obviously homogeneous but varies greatly in training, productivity and wages. At the very least, we should allow for different productivity of labour. Indeed, this is how the Ricardian theory of comparative advantage has been tested empirically. In any event, the theory of comparative advantage need not be based on the labour theory of value but can be explained on the basis of the opportunity cost theory which is acceptable. To be noted is that Ricardo himself did not believe in the labour theory of value mid used it only as a simple way to explain the law of comparative advantage. The law of comparative advantage is sometimes referred to as the law of comparative cost.

46. What does the Labour Theory of Value imply?
 (a) Labour is an extra factor in production
 (b) Labour has a limited role in production
 (c) Labour has the highest value in production
 (d) Commodity price and labour value are directly related
47. In the Labour Theory of Value, when it comes to production of commodities, engagement of labour is
 (a) heterogeneous
 (b) in fixed proportion
 (c) in varies proportion
 (d) capital intensive

48. Products like steel need
(a) less workers (b) more workers
(c) more machines (d) less machines
49. The Ricardian Theory is examined on the basis of
(a) labour value
(b) homogeneity of labour
(c) different levels of labour productivity
(d) law of possibility
50. According to the author of the passage
1. labour is the basis of commodity pricing
2. labour can be substituted with capital
3. less capital equipment per worker is required for products like textile
4. opportunity cost can help explain comparative advantage
5. Ricardo used the labour theory of value only to explain comparative cost
6. Ricardo was not sure of his own theory
- Choose the correct option:
(a) 1, 2 and 3 (b) 2, 3 and 4
(c) 4, 5 and 6 (d) 3, 4 and 5

□□□

Answer Key

Q.No.	Answer	Topic's Name	Chapter's Name
1	d	Teaching	Teaching aptitude
2	b	Methods of teaching in institutions of higher learning	Teaching aptitude
3	d	Teaching	Teaching aptitude
4	b	Factors affecting teaching	Teaching aptitude
5	a	Evaluation system	Teaching aptitude
6	c	Methods of research	Research aptitude
7	a	Methods of research	Research aptitude
8	b	Thesis and article writing	Research aptitude
9	b	Application of ICT in research	Research aptitude
10	c	Research Ethics	Research aptitude
11	d	Types of communication	Communication
12	b	Classroom communication	Communication
13	c	Classroom communication	Communication
14	d	Effective communication	Communication
15	c	Classroom communication	Communication
16	a	Logical reasoning	Mathematical reasoning
17	c	Percentage	Mathematical reasoning
18	d	Relationships	Mathematical reasoning
19	c	Codes	Mathematical reasoning
20	a	Number and letter series	Mathematical reasoning
21	b	Connotations	Logical reasoning
22	b	Propositions	Logical reasoning
23	a	Fallacies	Logical reasoning
24	d	Anumana Indian logic	Logical reasoning
25	b	Syllogism	Logical reasoning
26	d	Data interpretation	Data interpretation
27	d	Data interpretation	Data interpretation
28	c	Data interpretation	Data interpretation
29	a	Data interpretation	Data interpretation
30	b	Data interpretation	Data interpretation
31	c	Terminology	Information and communication technology
32	c	Storage devices	Information and communication technology
33	b	Terminology	Information and communication technology
34	c	Terminology	Information and communication technology
35	b	Governance	Information and communication technology
36	d	Natural disaster	People, development and environment
37	c	Kyoto Protocol	People, development and environment
38	b	Noise pollution	People, development and environment
39	a	Geothermal power	People, development and environment

40	d	Air pollution	People, development and environment
41	a	Governance and administration	Higher education system
42	c	Governance and administration	Higher education system
43	c	Governance and administration	Higher education system
44	d	Policies, governance and administration	Higher education system
45	a	Policies, governance and administration	Higher education system
46	d	Fact based	Comprehension
47	b	Fact based	Comprehension
48	c	Fact based	Comprehension
49	c	Inference based	Comprehension
50	d	Inference based	Comprehension

ANSWERS WITH EXPLANATIONS

1. **Option (d) is correct.**
To enhance understanding on the part of learners, teacher needs to ensure that students are able to write and discuss the information in their own words; are able to identify the related examples; and are able to interpret the meaning of concepts in multiple ways.
2. **Option (b) is correct.**
For ensuring outcome-based teaching at higher level, the steps will be
 1. Identifying desired outcome/objective from course
 2. Designing the appropriate content for the course
 3. Teaching-learning process
 4. Evaluation of the learning by using appropriate methods.
3. **Option (d) is correct.**
For effective teaching-learning process, teacher needs to develop self-esteem and self-confidence in learners by increasing the success rate of students. This can be done by ensuring that learners are able to understand the concepts.
4. **Option (b) is correct.**
Learning to learn is the capability to manage own learning; this includes effective time management and organization both. Teachers can ensure opportunities of learning are provided to students.
5. **Option (a) is correct.**
Formative assessment aims to provide continuous feedback to teacher and students both. This encourages identification of strengths and weaknesses of learners and provides them opportunities to develop their self-learning skills.
6. **Option (c) is correct.**
Empirico stands for data by observations and inductive research is for specific to generalization. In the inductive framework, researcher collect data from experiments, surveys and experiences. Then researcher tries to develop a generalized theory based on that data.
7. **Option (a) is correct.**
Probability sampling is when selection of sample units from the population is done randomly and is based on chance. This means that all units have equal chances of being selected for research. It is mostly used in survey, experimental and correlational research.
8. **Option (b) is correct.**
Thesis or research article should be written by following scientific process and procedures. Scientific methods will have clearly defined sections, subsections and style of writing.
9. **Option (b) is correct.**
WAN or Wide Area Network provides wider access to information and coverage as it is spread in a large geographic area.
10. **Option (c) is correct.**
In qualitative research, perspective of stake holders should have more weightage than biasness or opinion of researcher. If a researcher doing the same, it is disclosure of reality or tye real situation.
11. **Option (d) is correct.**
Linear communication is a one-way communication where a message is transferred by sender and receiver will only accept it. The language and signs used will be accurate as per the sender.
12. **Option (b) is correct.**
Classroom communication will always be effective if teacher includes the range of personal experiences while explaining the concepts.
13. **Option (c) is correct.**
Zone of proximal development refers to the difference between what a learner can do without any help what he can do with the guidance. The concept of proximal development was developed by Lev Vygotsky.

14. **Option (d) is correct.**

Effective oral communication will be based on self-confidence, consistent practice and knowing the audience but communication gets effected by attitude of encoders. So reason is not correct.

15. **Option (c) is correct.**

For classroom communication there are many mediums of communication along with spoken and written words like using models and diagrams, conducting practical experiments, etc.

16. **Option (a) is correct.**

A is directly proportional to B
 B is inversely proportional to C
 C is directly proportional to D
 This means that,
 A and B both are inversely proportional to C
 And, since C and D are directly proportional, so
 A and B are inversely proportional to C and D.

$$A \propto B$$

$$B \propto \frac{1}{C}$$

$$C \propto D$$

17. **Option (c) is correct.**

$$(a + b)/2 = 22$$

$$a + b = 22 \times 2 = 44,$$

$$a = 44 - b, \text{ and}$$

$$a \times 60/100 = b \times 50/100$$

$$3a/5 = b/2$$

$$a = b/2 \times 5/3 = 5b/6$$

$$44 - b = 5b/6$$

$$5b/6 + b = 44$$

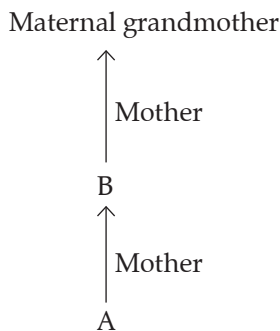
$$b = 24$$

$$a = 20$$

$$a \times b = 480$$

18. **Option (d) is correct.**

Adjust graph (skipped) as provided:



Maternal grandmother of A will be mother of B. Since B is the only daughter, hence she is the mother of A.

19. **Option (c) is correct.**

$$\begin{pmatrix} C \\ +2 \\ E \end{pmatrix} \begin{pmatrix} R \\ -2 \\ P \end{pmatrix} \begin{pmatrix} E \\ +2 \\ G \end{pmatrix} \begin{pmatrix} D \\ -2 \\ B \end{pmatrix} \begin{pmatrix} I \\ +2 \\ K \end{pmatrix} \begin{pmatrix} T \\ -2 \\ R \end{pmatrix}$$

$$\begin{pmatrix} D \\ +2 \\ F \end{pmatrix} \begin{pmatrix} E \\ -2 \\ C \end{pmatrix} \begin{pmatrix} B \\ +2 \\ D \end{pmatrix} \begin{pmatrix} I \\ -2 \\ G \end{pmatrix} \begin{pmatrix} T \\ +2 \\ V \end{pmatrix}$$

CREDIT is written as EPGBKR. One alphabet is an alternate letter in forward flow and then next is an alternate letter in reverse flow. Like C D E and then R Q P. This is the format for the word.

20. **Option (a) is correct.**

Numbers are written in one gap like 1-3, 3-5, 5-7. So the number will be 7-9. Alphabets are written at the gap of 3 like- D- e f g- H- i j k- L. So next alphabet will be L-m n o -P.

21. **Option (b) is correct.**

Connotation is a suggested meaning from a word which is different from its literal meaning. Intention of a term is the actual definition of the term.

22. **Option (b) is correct.**

Example of sub-contrary will be:
 Some cows are white
 Some cows are not white

23. **Option (a) is correct.**

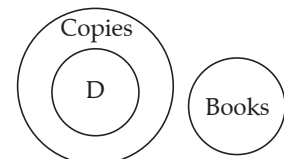
Petio Principii is a fallacy where the argument is such the conclusion is considered to be true, but for that one has to consider the premise to be true. Example- Every girl wants to buy that red dress, because it is the most beautiful dress available in the market.

24. **Option (d) is correct.**

Minor term- Praksha
 Major term- Sadhya
 Middle term- Hetu
 Example- We see smoke on hill and conclude that there is fire.
 Fire- Sadhya
 Hill- Praksha
 Smoke- Hetu (The reason)

25. **Option (b) is correct.**

All diaries are copies
 No copy is Book
 So,
 No diary is Book, and
 No book is copy



- 26. Option (d) is correct.**
 Import of all countries together in 2012 = 385 cr
 Export of all countries together in 2012 = 510 cr
 Total profit = 125 cr
- 27. Option (d) is correct.**
 Ratio of export of F in 2008 = 4:1
 Export of F in 2008 = 24 cr
 Let import be A, then $24:A = 4:1$
 Import of F in 2008 = $24 \times \frac{1}{4} = 6$
 Ratio of export of D in 2008 = 1:2
 Export of D in 2008 = 45 cr
 Let Import be B, then $45:B = 1:2$
 Import of D in 2008 = $45 \times \frac{2}{1} = 90$
 Total import of F and D = 96 cr
- 28. Option (c) is correct.**
 Export of country B in 2011 = 50 cr
 Export of country E in 2010 = 55 cr
 Total E and B = 105 cr
 Export of Country A in 2013 = $105 + \frac{20}{100} \times 105 = 105 + 21 = 126$ cr
 Import of Country A in 2013 = 92 cr
 Profit = $126 - 92 = 34$ cr
- 29. Option (a) is correct.**
 Average Export of E = $\frac{375}{5} = 75$
 Average Export of C = $\frac{330}{5} = 66$
 Avg export of E is more than Avg export of C by
 $= 75 - 66 = 9$
 Percentage of difference = $66 \times \frac{A}{100} = 9$
 $A = \left(\frac{9}{66}\right) \times 100 = \frac{150}{11} = 13\frac{7}{11}\%$.
- 30. Option (b) is correct.**
 Export of all countries in 2009 = 270
 Export of all countries in 2011 = 375
 Difference = 105
 Percentage increase = $270 \times \frac{A}{100} = 105$
 $A = \left(\frac{105}{270}\right) \times 100 = 38\frac{8}{9}\%$.
- 31. Option (c) is correct.**
 Data is the raw form of information. It is further analysed by user to get any useful information.
- 32. Option (c) is correct.**
 Hard disks are magnetic storage devices for computers which can store a large quantity of data and can be expanded as per the requirements of the user.
- 33. Option (b) is correct.**
 GIS is a software that collects, stores, retrieves useful information regarding the specific geographic area on earth and its surroundings.
- 34. Option (c) is correct.**
 Visual display unit is an output device that uses technology to present image and text. The flat screen or a projector are examples of VDU.
- 35. Option (b) is correct.**
 Since 1988, computer security day has been celebrated on 30th November to generate awareness among people regarding data security and protection of electronic devices.
- 36. Option (d) is correct.**
 Natural disasters always have a long lasting impact on socio and economic conditions of the area. Increase in poverty, loss of infrastructure and negative impact on families are few factors which are linked to natural disasters.
- 37. Option (c) is correct.**
 The Kyoto protocol is a treaty signed in 1997 and created by the UN to control the harmful gas emission and work towards the reduction of climate change. In its first commitment period the member countries committed to decrease the gas emission by 5%.
- 38. Option (b) is correct.**
 Excessive noise pollution can cause sleeplessness, speech problems, hearing problems and High blood pressure.
- 39. Option (a) is correct.**
 Geothermal energy is the source of heat within the surface and subsurface of earth. It is a renewable form of energy and it comes from rocks and streams under the surface of earth.
- 40. Option (d) is correct.**
 Room deodorizers can cause migraines, asthma and other diseases because of the presence of chemicals like VOCs, benzene, etc.
- 41. Option (a) is correct.**
 Government funding in the education sector has reduced dramatically and hence more emphasis is given to starting more free enterprises in this sector.
- 42. Option (c) is correct.**
 Community colleges are more affordable options in comparison to large universities. Expansion of skill programmes in the country

has also given a push to such low-cost community colleges. They do not receive any maintenance from UGC and are self-financing institutes.

43. Option (c) is correct.

As per the new guidelines of UGC in 2019, any institution which wants the status of deemed university must be operational for more than 20 years. It should have at least 100 teachers and 2000 students.

44. Option (d) is correct.

World trade organization founded in 1995, regulates and provides a framework regarding the trade between nations globally. It considers the education sector as a commodity and a trade. It believes in withdrawal of public sector funding from this sector.

45. Option (a) is correct.

HEFA is a joint venture between the government of India, MHRD and Canara Bank started in 2017. The objective is to provide loans at low interest to universities for research and development along with investment in infrastructure.

46. Option (d) is correct.

According to labour theory of value, the price of a commodity depends on the amount of

labour being used for production. This means that labour is the only factor of production being used or is used in the fixed proportion.

47. Option (b) is correct.

According to labour theory of value, the labour is engaged in a fixed proportion to that of the commodity being produced and it is homogeneous.

48. Option (c) is correct.

According to the paragraph, more capital equipment is required per worker for production of steel in comparison to products like textile.

49. Option (c) is correct.

The Ricardian theory of competitive advantage has been tested based on possibilities of different levels of productivity of labour based due to different training, etc.

50. Option (d) is correct.

According to the author, Ricardo used the labour theory to explain comparative cost only. He used the opportunity cost concept to explain the theory of comparative advantage. Author also pointed out that more capital equipment is required per worker for production of steel in comparison to products like textile.

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