

**UGC NET
PAPER-1****GENERAL
APTITUDE****Solved Paper
December
2015****Time Allotted: 1 Hour****Maximum Marks: 100****Important Instructions:**

1. Each question carries 2 marks.
2. There are 50 questions to be attempted out of 60 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. Greater the handicap of the students coming to the educational institutions, greater the demand on the:
(a) Family (b) Society
(c) Teacher (d) State
2. What are the characteristics of Continuous and Comprehensive Evaluation?
 1. It increases the workload on students by taking multiple tests.
 2. It replaces marks with grades.
 3. It evaluates every aspect of the student.
 4. It helps in reducing examination phobia.Select the correct answer from the codes given below:
(a) 1, 2, 3 and 4 (b) 2 and 4
(c) 1, 2 and 3 (d) 2, 3 and 4
3. Which of the following attributes denote great strengths of a teacher?
 1. Full-time active involvement in the institutional management
 2. Setting examples
 3. Willingness to put assumptions to the test
 4. Acknowledging mistakesSelect the correct answer from the codes given below:
(a) 1, 2 and 4 (b) 2, 3 and 4
(c) 1, 3 and 4 (d) 1, 2, 3 and 4
4. Which one of the following statements is correct in the context of multiple-choice type questions?
(a) They are more objective than true-false type questions.
(b) They are less objective than essay type questions.
(c) They are more subjective than short-answer type questions.
(d) They are more subjective than true-false type questions.
5. As Chairman of an independent commission on education, Jacques Delors report to UNESCO was titled:
(a) International Commission on Education Report
(b) Millennium Development Report
(c) Learning: The Treasure Within
(d) World Declaration on Education for All
6. What are required for good teaching?
 1. Diagnosis
 2. Remedy
 3. Direction
 4. FeedbackSelect the correct answer from the codes given below:
(a) 1, 2, 3 and 4 (b) 1 and 2
(c) 2, 3 and 4 (d) 3 and 4
7. Which of the following statements is not true in the context of participatory research?
(a) It recognizes knowledge as power.
(b) It emphasises on people as experts.
(c) It is a collective process of enquiry.
(d) Its sole purpose is production of knowledge.
8. Which of the following statements is true in the context of the testing of a hypothesis?

- (a) It is only the alternative hypothesis, that can be tested.
- (b) It is only the null hypothesis, that can be tested.
- (c) Both, the alternative and the null hypotheses can be tested.
- (d) Both, the alternative and the null hypotheses cannot be tested.
9. Which of the following are the basic rules of APA style of referencing format?
1. Italicize titles of shorter works such as journal articles or essays
 2. Invert authors' names (last name first)
 3. Italicize titles of longer works such as books and journals
 4. Alphabetically index reference list
- Select the correct answer from the codes given below:
- (a) 1 and 2 (b) 2, 3 and 4
 (c) 3 and 4 (d) 1, 2, 3 and 4
10. Which of the following are the characteristics of a seminar?
1. It is a form of academic instruction.
 2. It involves questioning, discussion and debates.
 3. It involves large groups of individuals.
 4. It needs involvement of skilled persons.
- Select the correct answer from the codes given below:
- (a) 2 and 3 (b) 2 and 4
 (c) 2, 3 and 4 (d) 1, 2 and 4
11. A researcher is interested in studying the prospects of a particular political party in an urban area. What tool should he prefer for the study?
- (a) Rating scale (b) Interview
 (c) Questionnaire (d) Schedule
12. Ethical norms in research do not involve guidelines for:
- (a) Thesis format
 (b) Copyright
 (c) Patenting policy
 (d) Data sharing policies

Direction for question 13 to 17:

Read the following passage carefully and answer the questions.

I did that thing recently where you have to sign a big card - which is a horror unto itself, especially as the keeper of the Big Card was leaning over me at the time. Suddenly I was

on the spot, a rabbit in the headlights, torn between doing a fun message or some sort of in-joke or a drawing. Instead overwhelmed by the myriad options available to me, I decided to just write: "Good luck, best, Joel".

It was then that I realised, to my horror, that I had forgotten how to write. My entire existence is "tap letters into computer". My shopping lists are hidden in the notes function of my phone. If I need to remember something I send an e-mail to myself. A pen is something I chew when I'm struggling to think. Paper is something I pile beneath my laptop to make it a more comfortable height for me to type on.

A poll of 1,000 teens by the stationers, Bic found that one in 10 don't own a pen, a third have never written a letter, and half of 13 to 19 years - old have never been forced to sit down and write a thank you letter. More than 80% have never written a love letter, 56% don't have letter paper at home. And a quarter have never known the unique torture of writing a birthday card. The most a teen ever has to use a pen is on an exam paper.

Bic, have you heard of mobile phones? Have you heard of e-mail, facebook and snap chatting? This is the future. Pens are dead. Paper is dead. Handwriting is a relic.

"Handwriting is one of the most creative outlets we have and should be given the same importance as other art forms such as sketching, painting or photography."

Answer the following questions:

13. When confronted with signing a big card, the author felt like "a rabbit in the headlight". What does this phrase mean?
- (a) A state of confusion
 (b) A state of pleasure
 (c) A state of anxiety
 (d) A state of pain
14. According to the author, which one is not the most creative outlet of pursuit?
- (a) Handwriting (b) Photography
 (c) Sketching (d) Reading
15. The entire existence of the author revolves round:
1. Computer
 2. Mobile phone
 3. Typewriter

- Identify the correct answer from the codes given below:
- (a) 2 only (b) 1 and 2 only
(c) 1, 2 and 3 (d) 2 and 3 only
16. How many teens, as per the Bic survey, do not own a pen?
(a) 800 (b) 560
(c) 500 (d) 100
17. What is the main concern of the author?
(a) That the teens use social networks for communication.
(b) That the teens use mobile phones.
(c) That the teens use computer.
(d) That the teens have forgotten the art of handwriting.
18. The main objectives of student evaluation of teachers are:
- To gather information about student weaknesses.
 - To make teachers take teaching seriously.
 - To help teachers adopt innovative methods of teaching.
 - To identify the areas of further improvement in teacher traits. Identify the correct answer from the codes given below:
(a) 1 and 2 only (b) 2, 3 and 4
(c) 1, 2 and 3 (d) 1 only
19. Using the central point of the classroom communication as the beginning of a dynamic pattern of ideas is referred to as:
(a) Systemisation
(b) Problem - orientation
(c) Idea protocol
(d) Mind mapping
20. Aspects of the voice, other than the speech are known as:
(a) Physical language (b) Personal language
(c) Para language (d) Delivery language
21. Every type of communication is affected by its:
(a) Reception (b) Transmission
(c) Non-regulation (d) Context
22. Attitudes, actions and appearances in the context of classroom communication are considered as:
(a) Verbal (b) Non-verbal
(c) Impersonal (d) Irrational
23. Most often, the teacher - student communication is:
(a) Spurious (b) Critical
(c) Utilitarian (d) Confrontational
24. In a classroom, a communicator's trust level is determined by:
(a) the use of hyperbole
(b) the change of voice level
(c) the use of abstract concepts
(d) eye contact
25. The next term in the series 2, 5, 10, 17, 26, 37 ? is:
(a) 50 (b) 57
(c) 62 (d) 72
26. A group of 210 students appeared in some test. The mean of 1/3rd of students is found to be 60. The mean of the remaining students is found to be 78. The mean of the whole group will be:
(a) 80 (b) 76
(c) 74 (d) 72
27. Anil after travelling 6 km towards East from his house realized that he has travelled in a wrong direction. He turned and travelled 12 km towards West, turned right and travelled 8 km to reach his office. The straight distance of the office from his house is:
(a) 20 km (b) 14 km
(c) 12 km (d) 10 km
28. The next term in the series: B2E, D5H, F12K, H27N ? is:
(a) J56I (b) I62Q
(c) Q62J (d) J58Q
29. A party was held in which a grandmother, father, mother, four sons, their wives and one son and two daughters to each of the sons were present. The number of females present in the party is:
(a) 12 (b) 14
(c) 18 (d) 24
30. P and Q are brothers. R and S are sisters. The son of P is brother of S. Q is related to R as:
(a) Son (b) Brother
(c) Uncle (d) Father
31. Consider the argument given below:
'Pre-employment testing of teachers is quite fair because doctors, architects and engineers who are now employed had to face such a testing.'
What type of argument it is?

- (a) Deductive (b) Analogical
 (c) Psychological (d) Biological

32. Among the following propositions two are related in such a way that they can both be true although they cannot both be false. Which are those propositions? Select the correct code.

Propositions:

1. Some priests are cunning.
2. No priest is cunning.
3. All priests are cunning.
4. Some priests are not cunning.

Codes:

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

33. A Cluster of propositions with a structure that exhibits some inference is called:

- (a) An inference (b) An argument
 (c) An explanation (d) A valid argument

34. Consider the following assertion (A) and reason (R) and select the correct code given below:

Assertion (A): No man is perfect.

Reason (R): Some men are not perfect.

- (a) Both (A) and (R) are true but (R) does not provide sufficient reason for (A).
 (b) Both (A) and (R) are true and (R) provides sufficient reason for (A).
 (c) (A) is true but (R) is false.
 (d) (A) is false but (R) is true.

35. A definition that has a meaning that is deliberately assigned to some symbol is called:

- (a) Lexical (b) Precising
 (c) Stipulative (d) Persuasive

36. If the proposition 'No men are honest' is taken to be false which of the following proposition/ propositions can be claimed certainly to be true?

Propositions:

- (a) All men are honest
 (b) Some men are honest
 (c) Some men are not honest
 (d) No honest person is man

Direction for questions 37 to 42:

Given below in the table is the decadal data of Population and Electrical Power Production of a country.

Year	Population (million)	Electrical Power Production (GW)*
1951	20	10
1961	21	20

1971	24	25
1981	27	40
1991	30	50
2001	32	80
2011	35	100

*1 GW = 1000 million watt

37. Which decade registered the maximum growth rate (%) of population?

- (a) 1961-1971 (b) 1971-1981
 (c) 1991-2001 (d) 2001-2011

38. Average decadal growth rate (%) of population is:

- (a) ~12.21% (b) ~9.82%
 (c) ~6.73% (d) ~5%

39. Based on the average decadal growth rate, what will be the population in the year 2021?

- (a) 40.34 million (b) 38.49 million
 (c) 37.28 million (d) 36.62 million

40. In the year 1951, what was the power availability per person?

- (a) 100 W (b) 200 W
 (c) 400 W (d) 500 W

41. In which decade, the average power availability per person was maximum?

- (a) 1981-1991 (b) 1991-2001
 (c) 2001-2011 (d) 1971-1981

42. By what percentage (%) the power production increased from 1951 to 2011?

- (a) 100% (b) 300%
 (c) 600% (d) 900%

43. NMEICT stands for:

- (a) National Mission on Education through ICT
 (b) National Mission on E-governance through ICT
 (c) National Mission on E-commerce through ICT
 (d) National Mission on E-learning through ICT

44. Which of the following is an instant messaging application?

1. WhatsApp
2. Google Talk
3. Viber

Select the correct answer from the codes given below:

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 only (d) 1, 2 and 3
45. In a Computer a byte generally consists of:
(a) 4 bits (b) 8 bits
(c) 16 bits (d) 10 bits
46. Which of the following is not an input device?
(a) Microphone (b) Keyboard
(c) Joystick (d) Monitor
47. Which of the following is an open source software?
(a) MS Word (b) Windows
(c) Mozilla Firefox (d) Acrobat Reader
48. Which of the following enables us to send the same letter to different persons in MS Word?
(a) Mail join (b) Mail copy
(c) Mail insert (d) Mail merge
49. Inside rural homes, the source/sources of Nitrogen Oxide Pollution may be:
1. Unvented gas stoves
2. Wood stoves
3. Kerosene heaters
Choose the correct code:
(a) 1 and 2 only (b) 2 and 3 only
(c) 2 only (d) 1, 2 and 3
50. Which of the following pollutants can cause cancer in humans?
(a) Pesticides (b) Mercury
(c) Lead (d) Ozone
51. **Assertion (A):** People population control measures do not necessarily help in checking environmental degradation.
Reason (R): The relationship between population growth and environmental degradation is rather complex.
Choose the correct answer from the following:
(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(c) (A) is true but (R) is false.
(d) (A) is false but (R) is true.
52. Which of the following phenomena is not a natural hazard?
(a) Wildfire
(b) Lightning
(c) Landslide
(d) Chemical contamination
53. As part of National Climate Change Policy, Indian government is planning to raise the installed capacity of renewable energy by the year 2030 to:
(a) 175 GW (b) 200 GW
(c) 250 GW (d) 350 GW
54. At present, in terms of per capita energy consumption (kWh/year), identify the correct sequence.
(a) Brazil > Russia > China > India
(b) Russia > China > India > Brazil
(c) Russia > China > Brazil > India
(d) China > Russia > Brazil > India
55. Which of the following are the objectives of Rashtriya Uchchatar Shiksha Abhiyan (RUSA)?
1. To improve the overall quality of state institutions.
2. To ensure adequate availability of quality faculty.
3. To create new institutions through upgradation of existing autonomous colleges.
4. To downgrade universities with poor infrastructure into autonomous colleges.
Select the correct answer from the codes given below:
(a) 1, 2, 3 and 4 (b) 1, 2 and 3
(c) 1, 3 and 4 (d) 1, 2 and 3
56. The grounds on which discrimination in admission to educational institutions is constitutionally prohibited are:
1. Religion
2. Sex
3. Place of birth
4. Nationality
Select the correct answer from the codes given below:
(a) 2, 3 and 4 (b) 1, 2 and 3
(c) 1, 2 and 4 (d) 1, 2, 3 and 4
57. Which of the following statements are correct about Lok Sabha?
1. The Constitution puts a limit on the size of the Lok Sabha.
2. The size and shape of the Parliamentary Constituencies is determined by the Election Commission.

3. First - past - the Post electoral system is followed.
4. The Speaker of Lok Sabha does not have a casting vote in case of an equality of votes.
Select the correct answer from the codes given below:
- (a) 1 and 3 only (b) 1, 2 and 3
(c) 1, 3 and 4 (d) 1, 2, 3 and 4
58. Public Order as an item in the Constitution figures in:
- (a) the Union List
(b) the State List
(c) the Concurrent List
(d) the Residuary Powers
59. The term of office of the Advocate General of a State is:
- (a) 4 years (b) 5 years
(c) 6 years or 65 years of age whichever is earlier
(d) not fixed
60. Which among the following States has the highest number of seats in the Lok Sabha?
- (a) Maharashtra (b) Rajasthan
(c) Tamil Nadu (d) West Bengal
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Answer Key

Q.No.	Answer	Topic's Name	Chapter's Name
1	c	General aptitude	Teaching aptitude
2	d	Continuous and comprehensive evaluation	Teaching aptitude
3	b	Qualities of a good teacher	Teaching aptitude
4	a	Types of questions	Teaching aptitude
5	c	Committees on higher education	Higher education system
6	a	Teaching methods	Teaching aptitude
7	d	Types of research	Research aptitude
8	b	Hypothesis testing	Research aptitude
9	b	Thesis writing styles	Research aptitude
10	d	Terminology in research	Research aptitude
11	c	Research tools	Research aptitude
12	a	Research ethics	Research aptitude
13	a	Inference Based	Comprehension
14	d	Inference Based	Comprehension
15	b	Fact based	Comprehension
16	d	Fact based	Comprehension
17	d	Fact based	Comprehension
18	b	Evaluation	Teaching aptitude
19	d	Classroom communication	Communication
20	c	Terminology	Communication
21	d	Types of communication	Communication
22	b	Classroom communication	Communication
23	c	Types of communication	Communication
24	d	Classroom communication	Communication
25	a	Number series	Logical reasoning
26	d	Ratio and proportion	Mathematical reasoning
27	d	Direction	Logical reasoning
28	d	Alphabetical series	Logical reasoning
29	b	Blood relation	Logical reasoning
30	c	Blood relation	Logical reasoning
31	b	Argument and conclusion	Logical reasoning
32	d	Syllogism	Logical reasoning
33	b	Terminology in logical reasoning	Logical reasoning
34	a	Syllogism	Logical reasoning
35	c	Types of definition	Logical reasoning
36	b	Syllogism	Logical reasoning
37	a	Data interpretation	Data interpretation
38	b	Data interpretation	Data interpretation
39	b	Data interpretation	Data interpretation

40	d	Data interpretation	Data interpretation
41	c	Data interpretation	Data interpretation
42	d	Data interpretation	Data interpretation
43	a	Government initiatives	Higher education system
44	d	Software	Information communication & technology
45	b	Memory units	Information communication & technology
46	d	Input-output devices	Information communication & technology
47	c	Software	Information communication & technology
48	d	Terminology in ICT	Information communication & technology
49	d	Pollutants	People and environment
50	a	Pollutants	People and environment
51	a	Environmental pollution	People and environment
52	d	Natural disasters	People and environment
53	d	National climate change policy	People and environment
54	c	Natural energy resources	People and environment
55	b	Government initiatives	Higher education system
56	b	Barriers for higher education	Higher education system
57	a	Parliament	People and environment
58	b	Terms related to Constitution	People and environment
59	d	Constitution	People and environment
60	a	Parliament	People and environment

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1. **Option (c) is correct.**
It is the responsibility of the teacher to ensure that every student in the class is at the same level of understanding.
2. **Option (d) is correct.**
Continuous and comprehensive evaluation does not increase workload on students.
3. **Option (b) is correct.**
Active involvement in the management of institution is a discretionary choice of any teacher. It does not affect the teaching skills of any teacher.
4. **Option (a) is correct.**
MCQs require respondents to be more specific and hence it helps in better judgement of the understanding level of learners.
5. **Option (c) is correct.**
Delors report is a report providing an insight into four pillars of learning and education throughout life which was submitted by Delors commission. It was titled "Learning: the treasure within".
6. **Option (a) is correct.**
Effective teaching requires all diagnosis, remedy, direction and feedback.
7. **Option (d) is correct.**
The purpose of participatory research is to involve the opinions of all those people who are impacted by the subject under study.
8. **Option (b) is correct.**
Alternative hypothesis is accepted or rejected based on the result of null hypothesis.
9. **Option (b) is correct.**
Italicizing the name of shorter works is not the rule under APA style of referencing.
10. **Option (d) is correct.**
Involving large group of people is not a necessary characteristic of Seminars.
11. **Option (c) is correct.**
Questionnaire method is the best for conducting a survey with the aim of understanding the prospects of any political party.
12. **Option (a) is correct.**
There is no strict format for drafting thesis. The format is normally decided by the institutes and the heads.
13. **Option (a) is correct.**
While writing a birthday card using pen and paper, author felt the state of confusion as writing using laptops and iPhone is much easier.
14. **Option (d) is correct.**
Author has not listed reading as one of the creative pursuit.
15. **Option (b) is correct.**
Author has always used mobiles and computers for writing and other related activities.
16. **Option (d) is correct.**
As per Bic survey of 1000 teens, one in every 10 teenagers do not own a pen. That makes it 100 teenagers out of 1000, who do not own a pen.
17. **Option (d) is correct.**
The main issue covered in the passage is that people have forgotten the art of writing.
18. **Option (b) is correct.**
The aim of taking student's feedback is not to identify the weakness of students.
19. **Option (d) is correct.**
Mind mapping is an effective tool used for brainstorming on any important idea which needs to be discussed further.
20. **Option (c) is correct.**
Paralanguage in communication involves those aspects of speech which support the way in which message is received by the audience. These are gestures, facial expressions, voice modulations, pitch and speech, etc.

- 21. Option (d) is correct.**
Context in communication is the situation or background in which message is being transferred. Context has a huge role to play in effective communication.
- 22. Option (b) is correct.**
Attitude, actions and appearances of sender and receivers are nonverbal communication.
- 23. Option (c) is correct.**
The communication between teacher and student has a specific and predefined purpose and motive behind it.
- 24. Option (d) is correct.**
Eye contact determines the trust level between the communicator and the audience.
- 25. Option (a) is correct.**
The difference between two terms in the given series is a sequence of prime numbers. 3,5,7,9,11 is the difference in the given series. Hence next number will be 50 by adding 13.
- 26. Option (d) is correct.**
If the mean of all 210 students is A,
 $A = (1/3 \times 210 - 60) + (2/3 \times 210 - 78)$
 $A = 72$
- 27. Option (d) is correct.**
By plotting the directions on graph, we get a right-angle triangle ABC. Considering AC is the slope and by Applying Pythagoras theorem,
 $AC = \text{Sq. root of } (AB)^2 + (BC)^2$
 $AC = \text{Sq. root of } 64 + 36$
 $AC = 10$
- 28. Option (d) is correct.**
In the given series,
 1. First alphabets of all terms are increasing by adding 2 alphabets in each term *i.e.*,
 $B + 2 = D, D + 2 = F, F + 2 = H, H + 2 = J.$
 2. Numbers in the middle are increasing by multiplication of 2 and then adding one to it *i.e.*, $(*2+1)$. Then $(*2 + 2) (*2 + 3)$ and so on.
 3. Third alphabets of all terms are increasing by adding 3 alphabets in each term *i.e.*,
 $E + 3 = H, H + 3 = K, K + 3 = N, N + 3 = Q$
 Hence next term is J58Q.
- 29. Option (b) is correct.**
Total number of females = 1 mother + 4 wives + 1 grandmother + eight daughters.
Total number of females = 14
- 30. Option (c) is correct.**
Since the son of P is the brother of S, hence P is the father of R and S.
P and Q are brothers.
So, Q is the uncle of R.
- 31. Option (b) is correct.**
Analogical arguments are the statements which compare one situation to a similar situation considering that if one statement is true then other must also be true.
- 32. Option (d) is correct.**
Some priests are cunning
Some priests are not cunning
These two statements can both be true together but cannot be false together.
- 33. Option (b) is correct.**
An argument is a bunch of statements with a valid conclusion drawn based on those arguments.
- 34. Option (a) is correct.**
Both of the given statements are true but statement R does not explain A clearly.
- 35. Option (c) is correct.**
Stipulative definitions are designed to give a new meaning to any new or already existing term.
- 36. Option (b) is correct.**
If proposition "No men are honest" is false, then we can say that "some men are honest" with surety.
- 37. Option (a) is correct.**
Growth rate in 1951-61 = $(21 - 20)/20 \times 100 = 5\%$
 Growth rate in 1961-71 = $(24 - 21)/21 \times 100 = 14.28\%$
 Growth rate in 1971-81 = $(27 - 24)/21 \times 100 = 12.5\%$
 Growth rate in 1981-91 = $(30 - 27)/27 \times 100 = 11.11\%$

$$\text{Growth rate in 1991–2001} = (32 - 30)/30 \times 100 = 6.66\%$$

$$\text{Growth rate in 2001–2011} = (35 - 32)/30 \times 100 = 9.37\%$$

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

$$\text{Average decadal growth rate of population} = (5 + 14.28 + 12.5 + 11.11 + 6.66 + 9.37)/6 = 9.82\%$$

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

$$\text{Average decadal growth rate of population} = 9.82\%$$

$$\text{Population in 2021} = (35 \times 9.82/100) + 35 = 38.49$$

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

$$1 \text{ GW} = 1000 \text{ million watts}$$

$$10 \text{ GW} = 10000 \text{ million watts}$$

$$\text{Power availability per person in 1951} = 10000/20 = 500 \text{ W}$$

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

$$\text{Power availability per person in 1951} = 10000/20 = 500 \text{ W}$$

$$\text{Power availability per person in 1961} = 20000/21 = 952 \text{ W}$$

$$\text{Power availability per person in 1971} = 25000/24 = 1041 \text{ W}$$

$$\text{Power availability per person in 1981} = 40000/27 = 1481 \text{ W}$$

$$\text{Power availability per person in 1991} = 50000/30 = 1666 \text{ W}$$

$$\text{Power availability per person in 2001} = 80000/32 = 2500 \text{ W}$$

$$\text{Power availability per person in 2011} = 100000/35 = 2857 \text{ W}$$

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

$$\text{Power production in 1951} = 10000 \text{ W}$$

$$\text{Power production in 2011} = 100000 \text{ W}$$

$$\text{Increase in power production from 1951 to 2011} = 90000$$

$$\% \text{ increase} = 90000/10000 \times 100 = 900\%$$

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

The full form of NMEICT national mission on education through ICT.

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

WhatsApp, Google talk and Viber are all instant messaging application.

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

1 byte equals to 8 bits.

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

Monitor of any computer system is an output device.

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

Mozilla Firefox is an open-source software or web browser which is very user friendly and provide access to global information easily.

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

Mail merge is a feature in Ms word, using which a list of recipients can be provided along with different messages for each recipient. Each recipient will receive a mail specifically drafted for them.

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

Gas stoves, wood stoves and kerosene heaters, all are the source of nitrogen oxide in rural homes.

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

Organophosphate and organochlorine classes of pesticides were the most to be associated with cancer.

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

Controlling the population growth is necessary but it will not necessarily help in managing environmental degradation. There are other factors also leading to environmental issues.

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

Chemical contamination of rivers and other natural resources is not a natural hazard, rather humans are responsible for it.

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

By 2030, Indian government has aimed to increase the energy production from renewable sources to 350 GW.

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

Per capita energy consumption of Russia is 6917 kWh approx.

Per capita energy consumption of China is 4906 kWh approx.

Per capita energy consumption of Brazil is 2671 kWh approx.

Per capita energy consumption of India is 1181 kWh approx.

55. Option (b) is correct.

To downgrade the universities with poor infrastructure into autonomous colleges, is not the objective of RUSA. RUSA is an scheme initiated in 2013 by MHRD with the aim of development of higher education in India.

56. Option (b) is correct.

Discrimination in admission to educational institutions is constitutionally prohibited on the basis of religion, gender and place of birth.

57. Option (a) is correct.

First past the post system means that the parties securing the highest number of votes will become eligible for the district seats. The party which loses the election will not get any representation. Also size of Lok Sabha is determined by constitution.

58. Option (b) is correct.

Public order as an item falls in state list in constitution. It covers the police and criminal justice issues.

59. Option (d) is correct.

Advocate general of the state advises the state government on legal issues. The term of advocate general of state is not fixed.

60. Option (a) is correct.

Maharashtra has 48 seats in Lok Sabha.

Rajasthan has 25 seats in Lok Sabha.

Tamil Nadu has 39 seats in Lok Sabha.

West Bengal has 42 seats in Lok Sabha.