UGC NET PAPER–1

GENERAL APTITUDE

SOLVED PAPER JANUARY 2025

Time Allotted: 3 Hour   **Maximum Marks:** 100

Important Instructions:-
1. Each question carries 2 marks.
2. This paper consists of fifty (50) multiple choice questions.
3. Each item has four alternative options marked **(a), (b), (c)** and **(d)**. You have to select the correct option.
   Example: where **(c)** is the correct option then you will select it like this (a) ⬭ (b) ⬭ (c) ⬭ (d) ⬭.
4. Use of any calculator or log table, etc., is prohibited.
5. There is no negative marking for incorrect answers.

Direction for Questions (1–5):

The following table shows the percentage of marks obtained by 6 students in 4 different subjects in an examination. Study the table and answer the questions that follow:

Students	Subject (Max Marks)			
	Physics (100)	Chemistry (100)	Maths (100)	English (100)
Radhika	90	85	95	98
Karan	92	90	90	93
Neeraj	86	82	75	77
Priyanka	63	48	55	75
Sujata	77	62	80	85
Preeti	50	52	40	59

Q.1. What is the overall percentage of Karan?
(a) 92.5%   (b) 90.75%   (c) 91.5%   (d) 91.25%

Q.2. What are the average marks obtained by the students with four highest scores in Physics?
(a) 86.5   (b) 88.5   (c) 78   (d) 86.25

Q.3. According to the marks obtained, what is the percentage of Neeraj in best three subjects?
(a) 80%   (b) 81.66%   (c) 81.33%   (d) 80.66%

Q.4. Which of the following received highest aggregate marks in all the four subjects?
(a) Radhika   (b) Karan   (c) Neeraj   (d) Sujata

Q.5. Which of the following pair of students has the smallest ratio between Physics marks scored by them?
(a) Radhika : Karan   (b) Neeraj : Karan
(c) Sujata : Neeraj   (d) Priyanka : Sujata

Q.6. Identify the fallacy in the following argument:
"Alan is tall, dark and handsome and has blue eyes. Bill is also tall, dark and handsome".
(a) Inconsistency   (b) Weak analogy
(c) Slippery slope   (d) Hasty generalisation

Q.7. In the context of communication the acronym 'SITE' is _____.
(a) Satellite Instructional Television Education
(b) Science Instructional Television Education
(c) Science Instructional Television Experiment
(d) Satellite Instructional Television Experiment

Q.8. Suppose a man swims 12 km upstream and 20 km down stream in a river in 4 hours. If he swims 18 km upstream and 10 km downstream also in 4 hours, then the speed at which he swims in the still water is.
(a) 4 km/h   (b) 6 km/h
(c) 8 km/h   (d) 10 km/h

Q.9. When was the National e-Governance Plan (NeGP) started in India?
(a) 2008   (b) 1991   (c) 2006   (d) 2014

Q.10. Match the LIST I with LIST II

LIST I (Type of Sampling)		LIST II (Meaning)	
A	Stratified Sampling	I.	Select every ith item on a list
B	Probability Sampling	II.	Population is divided into several sub-populations that are individually more homogeneous
C	Systematic Sampling	III.	Every item of the universe has an equal chance of inclusion in the sample
D	Non-probability Sampling	IV.	Procedure which does not afford any basis for estimating the probability that each item in the population has chance of being included in the sample

Choose the **correct** answer from the options given below:
(a) A–I, B–III, C–II, D–IV
(b) A–I, B–II, C–III, D–IV
(c) A–II, B–III, C–I, D–IV
(d) A–III, B–II, C–I, D–IV

Q.11. Acronym 'HTTPS' stands for
(a) Hypertext Transfer Protocol Secure
(b) Hyper Terminal Telephonic Pairty Self
(c) Hyper Terminal Telephonic Pairty Secure
(d) Hyper Terminal Telephonic Pairty Service

Q.12. According to Jaina philosophy, which among the following is not a form of indirect knowledge.
(a) Smrti   **(b)** Pratyabhijna
(c) Tarka   **(d)** Naya

Q.13. Identify the most favourable conditions for the dispersion and dilution of air pollutants in the atmosphere.
(a) Cold winter nights
(b) Sunny winter evenings
(c) Hot sunny summer afternoons
(d) Early mornings during summer

Q.14. Arrange the following major industrial disasters in correct chronological order.
(A) Bhopal Gas Tragedy
(B) Seveso Disaster
(C) Deepwater Horizon Oil Spill
(D) Soma Mine Disaster
Choose the *correct* answer from the options given below:
(a) A, B, C, D   **(b)** B, A, C, D
(c) C, D, A, B   **(d)** D, A, B , C

Q.15. Which of the following sequence in the development of interest in a subject by a learner is appropriate?
(A) Well developed individual interest
(B) Situational interest triggered
(C) Emerging individual interest
(D) Situational interest maintained
Choose the *correct* answer from the options given below:
(a) A, D, B, C   **(b)** C, D, B, A
(c) C, B, A, D   **(d)** B, D, C, A

Q.16. Consider the following argument and pick the correct answer:
''All four legged creatures have wings
All spiders have exactly four legs
Therefore, all spiders have wings''
(a) Valid argument: true premises, true conclusion
(b) Valid argument; false premises, false conclusion
(c) Invalid argument; true premises; true conclusion
(d) Invalid argument; true premises; false conclusion

Q.17. In the context of computer networking, the acronym 'MVNO' stands for.
(a) Mobile Virtual Network Operator
(b) Multimedia Virtual Network Operation
(c) Multimedia Voice Noise Operation
(d) Multimedia Voice Noise Operator

Q.18. Match the List I with List II

LIST I (Platform/Term)		LIST II (Description)	
A	SWAYAM	I.	L.M.S
B	Moodle	II.	O.E.R
C	Open access	III.	Scopus
D	h-index	IV.	MOOCS

Choose the *correct* answer from the options given below:
(a) A–IV, B–I, C–II, D–III
(b) A–IV, B–II, C–I, D–III
(c) A–II, B–III, C–I, D–IV
(d) A–II, B–I, C–III, D–IV

Q.19. Arrange the four theories of the press in the correct order of theories:
(A) Soviet Theory
(B) Authoritarian Theory
(C) Liberation Theory
(D) Social Responsibility Theory
Choose the *correct* answer from the options given below:
(a) C, B, A, D   **(b)** B, C, D, A
(c) B, A, C, D   **(d)** B, C, A, D

Q.20. The average of the ages of three persons A, B and C is 45 years and the average age of A, C and D is 51 years. If the age of D is 56 years. what is the age of B?
(a) 35 years   **(b)** 38 years
(c) 36 years   **(d)** 36.5 years

Q.21. If taken seriously the most important benefit of correctly carried out evaluation can ensure:
(A) Decision about progression of students
(B) Improved teaching
(C) Improved learning
(D) Categorising students on the basis of their achievements
Choose the *correct* answer from the options given below:
(a) C and D only   **(b)** A and C only
(c) B and D only   **(d)** B and C only

Q.22. WiMAX stands for_____.
(a) Worldwide Interoperability for Microwave Access
(b) Web interoperability for Microwave Access
(c) World Wide interoperation for Microwave Access
(d) World Wide inter operability for Multimedia Access

Q.23. Identify the benefits of biodiversity.
(A) Contribution to human food supplies
(B) Providing important medicines
(C) Supporting ecosystem stability
(D) Aesthetic and cultural value
Choose the *correct* answer from the options given below:
(a) A, B and C only   **(b)** B, C and D only
(c) A, B and D only   **(d)** A, B, C and D

Q.24. When students encounter difficulties in class, the teacher should not:
(a) Give frequent opportunities to them to respond in class room
(b) Reduce the task, without over-simplifying it
(c) Emphasise on the future and problems of failure
(d) Teach some useful learning strategies

Q.25. Informal experimental designs are_____
(A) factorial designs
(B) before-and-after without control design
(C) after-only with control design
(D) randomised block design
(E) before-and-after with control design
Choose the *correct* answer from the options given below:
(a) A, C and D only
(b) B and C only
(c) D and E only
(d) B, C and E only

Q.26. Match the List I with List II

	LIST I (Computer Security Term)		LIST II (Description)
A	Eavesdropping	I.	Looks like a legitimate software
B	Snooping	II.	Just hacks the system for the fun of it
C	Grey hat hacker	III.	Process of secret capture
D	Trojan	IV.	An unauthorised real time interception

Choose the *correct* answer from the options given below:
(a) A–IV, B–III, C–II, D–I
(b) A–I, B–II, C–III, D–IV
(c) A–II, B–III, C–IV, D–I
(d) A–IV, B–II, C–I, D–III

Q.27. Ethical and moral values that students should acquire through education involve.
(A) Patriotism (B) Sacrifice
(C) Intellectual vigour (D) Equality
(E) Fraternity
Choose the *correct* answer from the options given below:
(a) B and C only (b) A and B only
(c) A and C only (d) B, C, D and E only

Q.28. Which of the following is not a basic postulate with regard to scientific method?
(a) Its methodology is made known to all concerned for critical scrutiny.
(b) It utilises relevant concepts.
(c) It is not committed to only objective considerations.
(d) It aims at formulating most general axioms or what can be termed as scientific theories.

Q.29. Lecture method shall be selected for a class, if
(A) Teacher is a good orator
(B) All students are above average
(C) Curricular objectives demand so
(D) Students request the teacher to do so
Choose the *correct* answer from the options given below:
(a) A only (b) A only
(c) A and C only (d) C and D only

Q.30. Deliberate Sampling is also known as_____.
(a) Snowball Sampling
(b) Purposive or Probability Sampling
(c) Quota Sampling
(d) Purposive or Non-Probability Sampling

Q.31. 'Thumbs up' is a kind of _____ communication
(a) verbal (b) non-verbal
(c) transpersonal (d) intrapersonal

Q.32. A fourth proportional to st^5, s^2t^3, s^3t^2 (where s, t are non-zero) is
(a) s (b) s^2 (b) s^3 (d) s^4

Q.33. Who among the following holds that Indriya is not a physiological organ but a peculiar capacity of the organ
(a) Buddhists (b) Mimamsakas
(c) Naiyayikas (d) Vedantins

Q.34. Environmental education does not consist of ___
(a) climate change
(b) economic disparity in society
(c) consumption of resources
(d) environmental degradation

Q.35. Which of the following are correct?
(A) UGC frames regulations and sets minimum standard of education
(B) NAAC ensures quality and accreditation
(C) HEFA provides grant-in-aid to higher education institutions
(D) NIRF ranks Indian institutions
Choose the correct answer from the options given below:
(a) B only (b) D only
(c) A, B and D only (d) A, B, C and D only

Q.36. Which of the following are correct in the light of stipulative definitions
(A) A stipulative definition is always either true or false
(B) A stipulative definition is a proposal or a request or a resolution to use the definiendum to mean what is meant by defines
(C) A stipulative definition is informative and not directive
(D) Naming the number 10^{100} as "googol" is a stipulation
Choose the correct answer from the options given below:
(a) A and C only (b) B and C only
(c) C and D only (d) B and D only

Q.37. Which of the following cities is often referred to as a model sustainable city in modem texts?
(a) Mexico City (b) Mumbai
(c) Curitiba (d) Shanghai

Q.38. The tenth term in the following sequence: 1, 5, 14, 30, 55 ....
(a) 155   (b) 175   (c) 285   (d) 385

Q.39. Match the List I with List II.

LIST I (Classroom Communication Technologies)		LIST II (Meaning)	
A	Interactive White Board	I.	Remote communication with students.
B	Video conferencing	II.	Visual and interactive tool for teaching.
C	Learning Management System	III.	Display visual content in the class.
D	Projector	IV.	Organising and delivering course content like video lectures and text.

Choose the correct answer from the options given below:
(a) A–I, B–II, C–IV, D–III
(b) A–II, B–I, C–III, D–IV
(c) A–II, B–IV, C–I, D–III
(d) A–II, B–I, C–IV, D–III

Q.40. Which of the following are not referencing styles?
(A) Harvard referencing style
(B) Oxford referencing style
(C) Cambridge referencing style
(D) New York referencing style
(E) Vancouver referencing style
Choose the correct answer from the options given below:
(a) C and D only   (b) C, D and E only
(c) D and E only   (d) B and C only

Q.41. How can psychological barrier affect classroom communication?
(a) They facilitate mutual understanding
(b) They create bias in the interpretation of the meaning of the message
(c) They make messages clearer
(d) They eliminate misunderstanding

Q.42. The Paris Agreement envisages pursuing efforts to limit global warming this century to how many degree Celsius above the pre-industrial levels of global average temperature?
(a) 0.5°C   (b) 1°C   (c) 1.5°C   (d) 2.5°C

Q.43. What is the next letter in the following sequence? B, D, G, K, P, V, C
(a) K   (b) L   (c) M   (d) N

Q.44. Match the List I with List II

LIST I (Institutions)		LIST II (Associated Feature)	
A	Nalanda	I.	Chanakya
B	Takshashila	II.	Admission with entrance examination
C	Vikramshila	III.	Well furnished library
D	Nagarjuna Vidyapeeth	IV.	Only for Buddhist monks

Choose the *correct* answer from the options given below:
(a) A–I, B–II, C–III, D–IV
(b) A–I, B–II, C–IV, D–III
(c) A–II, B–I, C–III, D–IV
(d) A–II, B–I, C–IV, D–III

Q.45. Skills to face job interviews and getting employed are part of:
(a) Livelihood skill   (b) Life skill
(c) Soft skill   (d) Learning skill

Direction for Questions (46–50):

Read the passage given below and answer the following questions.

Handicraft is about processing materials by band with hand tools. The results can be helpful things or decorative things. The materials utilised in the product are natural, industrially processed or may be recycled. The models of the product are ancient, revised traditional and fashionable. Handicraft is deeply frozen in society and contributes to the idea of preserving and perpetuating traditions. In their product, crafters transfer an area of their cultural heritage in ideas, forms, materials and work ways, similarly as their own values, philosophy of life, fashion and self-image. Crafts people also known as artisans possess technical data of materials and work ways. They are skilled employees whose profession relies on manual skills. Handicrafts contain plenty of implicit data which grows every year, aboard with skills. The order and apprentice system has been widely used to transfer skills and implicit data.

Q.46. The world 'apprentice' implies:
(a) Carpenter   (b) Plumber
(c) Trainee   (d) Artist

Q.47. Identify the central theme of the passage.
(a) Inventions of India
(b) Creations and designs of India
(c) Architecture of India
(d) Handicrafts of India

Q.48. Pick the statements which is not true.
(a) Craftsmen transfer their values and philosophy of life
(b) There is a no implicit data in the craftsmanship
(c) The materials utilised for the crafts are generally recycled
(d) The models prepared by craftsmen are very fashionable

Q.49. The importance behind the idea of crafts is
(a) Gainful employment
(b) To make new products
(c) To preserve the tradition
(d) To spend quality time

Q.50. The materials used in the products are.
(a) Natural only
(b) Industrially processed and natural only
(c) Recyclable and natural only
(d) Natural, recyclable and industrially processed

Q. No.	Answer	Topic	Unit/Chapter
		Answer Key	
1	d	Data interpretation	Data interpretation
2	d	Data interpretation	Data interpretation
3	b	Data interpretation	Data interpretation
4	a	Data interpretation	Data interpretation
5	d	Data interpretation	Data interpretation
6	b	Fallacy	Logical reasoning
7	d	Abbreviations	ICT
8	c	Boat and speed	Mathematical reasoning
9	c	E-governance	People and environment
10	c	Sampling	Research aptitude
11	a	Abbreviations	ICT
12	d	Indian logic	Logical reasoning
13	a	Pollution	People and environment
14	b	Natural disasters	People and environment
15	d	Learning process	Teaching aptitude
16	d	Argument	Logical reasoning
17	a	Abbreviations	ICT
18	a	General aptitude	Higher education
19	b	Teaching method	Teaching aptitude
20	b	Average	Mathematical reasoning
21	b	Evaluation system	Higher education
22	a	Abbreviations	ICT
23	d	Biodiversity and environment	People and environment
24	c	Effective teaching	Teaching aptitude
25	d	Research design	Research aptitude
26	a	Cyber security	ICT
27	d	Learner's characteristics	Teaching aptitude
28	c	Types of research	Research aptitude
29	c	Teaching method	Teaching aptitude
30	d	Sampling	Research aptitude
31	b	Types of communication	Communication
32	d	Ratio and Proportion	Mathematical reasoning
33	c	General aptitude	Higher education
34	c	Environmental education	People and environment
35	d	Higher education institutions	Higher education
36	d	Types of definitions	Research aptitude
37	c	General aptitude	Higher education
38	d	Number system	Mathematical reasoning
39	d	Teaching learning material	Teaching aptitude
40	d	Referencing (research process)	Research aptitude
41	b	Barriers to communication	Communication

42	c	International agreements	People and environment
43	a	Alphabetical series	Mathematical reasoning
44	c	Ancient universities	Higher education
45	c	Learning skills	Teaching aptitude
46	c	Reading comprehension	Reading comprehension
47	d	Reading comprehension	Reading comprehension
48	b	Reading comprehension	Reading comprehension
49	c	Reading comprehension	Reading comprehension
50	d	Reading comprehension	Reading comprehension

Answers with Explanations

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

Marks of Karan 92, 90, 90 and 93 in Physics, Chemistry, Maths and English, respectively.

Overall Percentage = $\dfrac{92+90+90+93}{400} \times 100$

$= 91.25$

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

Four highest score in Physics are of Karan (92), Radhika (90), Neeraj (86) and Sujata (77).

Average = $\dfrac{92+90+86+77}{4}$

$= 86.25$

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

Best three subjects of Neeraj are Physics, Chemistry and English with 86, 82 and 77 marks, respectively.

Percentage = $\dfrac{86+82+77}{300} \times 100$

$= \dfrac{245}{300} \times 100 = 81.66\%$

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

Marks					
	Physics	Chemistry	Maths	English	Aggregate
Radhika	90	85	95	98	368
Karan	92	90	90	93	365
Neeraj	86	82	75	77	320
Sujata	77	62	80	85	304

Highest Aggregate marks $\Rightarrow$ Radhika

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

Ratio of marks of Physics

	Marks Ratio	Simple Form
Radhika : Karan	90 : 92	45 : 46
Neeraj : Karan	86 : 92	43 : 46
Sujata : Neeraj	77 : 86	77 : 86
Priyanka : Sujata	63 : 77	9 : 11

Smallest ratio is 63 : 77 as:

$$\dfrac{45}{46} : \dfrac{43}{46} : \dfrac{77}{86} : \dfrac{9}{11}$$

or

0.97, 0.93, 0.89, 0.81

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

Fallacy: Fallacy is defect and reasoning or false statement or error in logic.

Slippery slope fallacy: The fallacy or Hetvabhichara when arguments are connected with a flow and series of irrelevant arguments is called a slippery slope.

Weak analogy fallacy: When two things are compared that are not similar enough in the relevant ways.

Hasty generalisation fallacy: Someone derive expensive conclusion based on inadequate evidence.

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

SITE stands for **Satellite Instructional Television Experiment**.

Other facts related with SITE are as follows;-

- It started in 1975–76.
- It is a satellite–based communication project.
- Main objectives of this project were :
  - ♦ Increase literacy in India specially in poor population and underprivileged areas.
  - ♦ To experience satellite–based communication technology.
- Designed by NASA and ISRO.
- This project covers 6 states and more than 2400 villages.
- ATS-6 satellite is related with it.

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

Let U and D be the relative speed in upstream and downstream. Also, x & y be the speed of man in still water and river respectively.

D = $x + y$ and U = $x - y$

According to the problem

$$\dfrac{12}{U} + \dfrac{20}{D} = 4 \text{ h} \qquad \qquad ...(i)$$

and $\qquad \dfrac{18}{U} + \dfrac{10}{D} = 4 \text{ h}$ ...(ii)

Solving equation (i) and (ii)

We get, U = 6 km/h, D = 10 km/h

Now, $\qquad x = \dfrac{D + U}{2}$

Or, $\qquad x = \dfrac{10 + 6}{2}$

$\qquad x = 8 \text{ km/h}$

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

National e-Governance Plan was started on 18 March 2006 by the Indian government.

- Four pillars of e-Governance are people, process, technology and resources.
- Main objectives of National e-Governance Plan were:
  - ♦ Accessibility of government services
  - ♦ Efficiency of services
  - ♦ Transparency
  - ♦ Reliability
  - ♦ Affordability
  - ♦ Ruler entrepreneurship
- Components
  - ♦ Mission mode projects (currently 27 projects)
  - ♦ Support components
  - ♦ Core infrastructure components

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

Sampling is a method of selecting representative units of population to research.

Sampling can be done by two methods.

Random or probability sampling: In this method of sampling every unit has an equal chance to be selected in a sample. It includes:

- **Simple random sampling:** In this method of sampling random units from the population are selected.
- **Systematic sampling:** In this method a sample is selected on the basis of a pattern. For example, every 10th unit is selected.
- **Stratified sampling:** In this the population is divided into stratas or small groups on the basis of some relevant qualities or characteristics. Then, units from every group are selected for sampling.
- **Cluster sampling:** In cluster sampling groups of the entire population are made randomly and a sample is selected from every group.

Non-random or non-probability sampling:

Each or every unit has an unequal chance to be selected in representative units or samples. It includes:

- **Quota sampling**: Here a standard or kota or rules is set to select the sample.
- **Judgemental sampling:** Sample is selected on biases or perspective of the researcher.

- **Convenience sampling:** In this participants or sample is selected on the basis of availability or access to the researcher.
- **Snowball sampling:** Participants or sample is selected through their social network this method is used generally in the researches where people are less interested in revealing.

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

HTTPS stands for Hypertext Transfer Protocol Secure is a security protocol.

This is generally used for more security specially when the user is performing banking activities or online shopping.

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

Naya is not a source of indirect knowledge according to Jaina philosophy.

There are three primary source of direct knowledge as per jain school or logic:

A. Pratyaksha

B. Anumana

C. Shabda

Source of indirect knowledge:

A. Smrti

B. Pratyabhijna

C. Tarka

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

Cold, strong wind, unstable environmental conditions are most favourable conditions for dispersion and dilution of air pollutants in the atmosphere.

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

Bhopal Gas Tragedy	1984
Seveso Disaster	1976
Deepwater Horizon Oil Spill	2010
Soma Mine Disaster	2014

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

Most suitable sequence of development of interest in the subject of a student is situational interest to well developed interest via increasing interest phase.

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

Invalid argument; true premises; false conclusion.

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

MVNO is the abbreviation of Mobile Virtual Network Operator.

MVNO is a company or organisation that provides mobile services. It leases the capacity on the basis of an agreement with MNO or Mobile Network Operator.

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

SWAYAM – Swayam stands for Study Web of Active Learning for Youth Aspiring Minds.

1. This was launched by the Minister of Human resources development (now the Ministry of Education) in 2017.

2. It has move based courses which are completely free of cost for everyone.

3. It works on three principles which are equality, accessibility and quality.

4. It includes four quadrants – E-tutorial, E-content web, resources and self assessment.

5. It has a number of MOOC courses.

Open access is related to OER which stands for Open Educational Resources.

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

(B) Authoritarian Theory – Developed in the 16th and 17th centuries, this theory suggests that the press is under the control of the government or ruling authority and is used to maintain power.

(C) Libertarian Theory – Emerged in the 17th and 18th centuries during the Enlightenment, advocating for free press and minimal government intervention in media.

(D) Social Responsibility Theory – Developed in the 20th century, this theory argues that while the press should be free, it also has a responsibility to serve the public good and act ethically.

(A) Soviet Theory – Evolved from the Authoritarian Theory and was prominent in the 20th century, particularly in communist countries, where the press was state-controlled and served as a tool for promoting socialist ideologies.

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

Average age of A, B and C = 45

Total of their ages = $45 \times 3 = 135$

Average age of A, C and D = 51 years

Total of their ages = $51 \times 3 = 153$

Age of D = 56 years

Age of A and C together = 153 – 56 = 97

Age of B = total of ages of A, B and C – total of ages of A and C = 135 – 97 = 38 years

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

Careful evaluation can help teachers and parents to evaluate correct progress of the student and to know about improvement in the learning process.

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

WiMAX is a wireless network technology which stands for Worldwide Interoperability for Microwave Access.

It has greater range than Wi-Fi.

OFDMA, TDD and MIMO are used in WiMAX

It is faster and more efficient than Wi-Fi.

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

All the given points are the facts in which biodiversity benefit us and nature as well.

Benefits of biodiversity are:

• Clean environment

• Provides food

• Provides medicines

• Provides resources

• Economically beneficial

• Protection from natural hazards

• Cultural value

• Employment generation

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

When students are struggling with the current situation the teacher should try to understand the reason for the struggle and solve them.

Giving passage on the future and problems can demotivate students.

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

Informal experimental designs are related with before and after results of dependent and independent variables.

These includes before-and-after without control, only after with control, before-and-after with control.

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

Grey hat hacking is hacking the system just to make fun of it.

Unauthorised real-time interception is called **Eavesdropping**.

Snooping is capturing the data of a system secretly.

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

Patriotism is the quality which a learner learns or acquires from the society. All other qualities should be acquired through education.

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

Scientific method of research is based on objectivity not subjectivity.

Hence, it is committed to objective consideration or consideration without biasness.

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

Lecture method is used for higher classes. This teacher is active and students have a passive role.

Lecture method should be adopted only if:

A. Teachers are good at public speaking or speeches.

B. Curricular demand so

C. No need for active participation of students.

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

Deliberate or non-probability or purposive sampling in the method of sampling, in which researcher is biased and selects the sample size and sample units according to the purpose or biasness or perception.

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

Thumbs up, blinking eyes are examples of non-verbal communication.

Verbal Communications	Non-verbal Communication
Verbal Communication is the exchange of information by words.	Non-verbal Communication is the exchange of information by wordless cues.

Verbal Communication has less chance of confusion and misunderstanding the message.	Non-verbal Communication has more chance of confusion and misunderstanding the message.
Verbal Communication leads to prompt interchange of information.	Non-verbal Communication can take more time.
Verbal Communication doesn't essentially require the presence of both the parties at the same place.	Non-verbal Communication requires the presence of both the parties at the same place.

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

Let the fourth proportional be x

$$\frac{st^5}{s^2t^3} = \frac{s^3t^2}{x}$$

$$x = \frac{s^5t^5}{st^5}$$

$$x = s^4$$

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

Naiyayikas believe that the sense organs have the ability to perceive objects through their specific capacities.

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

Consumption of resources is not a scope of environmental studies.

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

The University Grants Commission (UGC) is responsible for maintaining the quality and standards of higher education in India.

The National Assessment and Accreditation Council (NAAC) evaluates and accredits higher education institutions based on various quality parameters.

The Higher Education Financing Agency (HEFA) provides loans and grants, to educational institutions for infrastructure development.

The National Institutional Ranking Framework (NIRF) ranks Indian higher education institutions based on teaching, research, outreach, and perception.

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

- Stipulative definition are adding new meaning to new or existing word.
- These are directive not informative.
- Words generally used by author of poets.
- The definition is context depended not content or word.

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

Curitiba, the capital city of the state of Parana in Brazil, is often referred as a model sustainable city in modern texts.

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

Term

①	②	③	④	⑤	⑥
1	5	14	30	55	91

$$4 \quad 9 \quad 25 \quad 25 \quad 36$$
$$2^2 \quad 3^2 \quad 4^2 \quad 5^2 \quad 6^2$$

Term

⑥	⑦	⑧	⑨	⑩
91	140	204	285	385

$$49 \quad 64 \quad 81 \quad 100$$
$$7^2 \quad 8^2 \quad 9^2 \quad 10^2$$

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

Match List I with List II.

LIST I (Classroom Communication Technologies)	LIST II (Meaning)
Interactive White Board	Visual and interactive tools for teaching
Video conferencing	Remote communication with students
Learning Management System	Organising and delivering course content like video lectures and text
Projector	Display visual content in the class

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

Various referencing styles are:
- Harvard style
- APA
- MLA
- New York style
- The Chicago manual
- Royal Society of Chemistry
- Vancouver style

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

Psychological barrier are the barrier of listener's or sender's psychology. It includes perception, believe, personality, motivation level, etc.
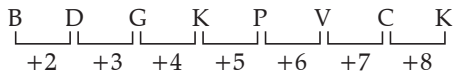
42.   **Option (c) is correct.**

Paris Agreement:
- The Paris Agreement is the COP (Conference of the Parties) 21 of the United Nations Framework Convention on Climate Change.
- It was held in 2015, enforced from 2016 and started in 2020.
- It has legally binding agreements.
- It deals with greenhouse gases emission, mitigation, adoption and finance.
- 20-20-20 formula or mechanism would be held every 5 years.
- 20% reduction of greenhouse gases, 20% savings of energy and 20% increase of renewable energy share.

- The main objective or goal is to rise world temperature well under 2°C and to pursue efforts to maintain it for 1.5°C.
- Pre-industrial level is used as limit of comparison.

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

$$\text{B} \quad \text{D} \quad \text{G} \quad \text{K} \quad \text{P} \quad \text{V} \quad \text{C} \quad \text{K}$$
$$+2 \quad +3 \quad +4 \quad +5 \quad +6 \quad +7 \quad +8$$

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

Chanakya or Vishnugupta was professor of **Takshashila** University and author of book Arthshastra.

Nalanda was a very famous university with a very tough entrance exam.

- Nalanda University was situated in Magadh, which is presently in Bihar.
- It was a systematic university.
- It was a Buddhist University.
- This university was destroyed by Bakhtiyar Khilji.
- Sheel Bhadra was the vice chancellor of Nalanda University.
- Various scholars from different countries came to study in this university.
- Singapore, China, India, Japan and other countries are known to revive and restore this university as Nalanda International University in 2006.
- This plan was announced in East India Summit and the university will be situated in Rajgir, Bihar, India.
- The first session of the university got started from September 2014.

Nagarjuna Vidhyapeeth was named after a Buddhist monk named Nagarjuna.

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

Interaction with people effectively is a part of soft skills.

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

The work apprentice refers to the training system of trainee.

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

The passage emphasis on handicraft of India. Hence, the central idea of the passage is handicrafts of India.

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

According to the given passage, handicrafts contain plenty of implicit data.

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

The line is given in the passage that handicraft is frozen in the society and contributes to the idea of preserving and perpetuation the tradition.

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

The materials utilised in the product are natural, industrially processed or may be recycled.