

UGC NET 2024



250+ **Mock Tests**



90+ Previous Year Papers



Unlimited Re-Attempt

UNLOCK WITH TEST PRIME

*ALSO GET ACCESS TO
STATE SETS,
FACULTY RECRUITMENT,
JRF RECRUITMENT EXAMS*

UGC NET MEMORY BASED QUESTION-PAPER 1

TOPICS ASKED IN UGC NET PAPER - 1 (10 JANUARY 2025 SHIFT- 2)

D.I.- RATIO BASED TABLE

LR. - CODING DECODING, BLOOD RELATION, FALLACY, HETVABHASA

P.D.- SDG, PEAK NOISE LEVEL DIFFER. BACKGROUND NOISE, AIR QUALITY INDEX

COMM. - CHRONOLGY

MATHS- ALGEBRIC IDENTITY

H.E.- FIRST WOMEN UNIV. IN INDIA, HANSA MEHTA COMMITTEE

RESEARCH- PARAMETRIC, CHRONOLGY

ICT- RAM, ROM, EMAIL, CPU, MEMORY-REGISTER CACHE

MEMORY BASED QUES

Q1. Identify the parametric tests used for statistical analysis.

- (A) t-test
- (B) H-test
- (C) F-test
- (D) U-test

Choose the correct answer from the options given below:

- (a) (A) and (B) Only
- (b) (B) and (C) Only
- (c) (C) and (D) Only
- (d) (A) and (C) Only

Ans.(d)

Sol. Parametric tests are statistical tests that assume the underlying data follows a certain distribution, typically a normal distribution, and they rely on parameters like mean and standard deviation.

- **t-test (A):** A parametric test used to compare the means of two groups to determine if they are significantly different from each other.
- **F-test (C):** Another parametric test used to compare variances between groups or to test the overall significance in ANOVA.

On the other hand:

- **H-test (B),** also known as the **Kruskal-Wallis H test**, is a non-parametric test used for comparing medians across multiple groups.
- **U-test (D),** also known as the **Mann-Whitney U test**, is a non-parametric test used to compare differences between two independent groups when the data does not follow a normal distribution.

Information Booster: 1. **t-test:** Used for comparing means between two groups, assuming data follows a normal distribution.

2. **F-test:** Employed in comparing variances or analyzing variance in ANOVA.

3. **Parametric tests:** Assume data follows a specific distribution (usually normal).

4. **Non-parametric tests:** Used when the assumption of normal distribution is violated.

Q2. Under the Quality Mandate of UGC, the acronym 'CARE' stands for

- (a) Commission for Academic and Research Ethics
- (b) Centre for Academic Research and Ethics
- (c) Consortium for Academic and Research Ethics
- (d) Computer-Aided Research and Education

Ans.(c)

Sol. The **Consortium for Academic and Research Ethics (CARE)** was established by the University Grants Commission (UGC) to promote high-quality research and prevent unethical practices in academic publishing. UGC CARE is responsible for maintaining a list of credible and quality journals, which can be referred to by Indian researchers and academicians for their publications. This initiative helps in curbing the proliferation of predatory journals and ensures that research outputs are of international standards.

Information Booster: 1. **UGC CARE List:** It contains a list of reputable journals and helps researchers identify where to publish their work.

2. The purpose of **CARE** is to improve the **quality of research output** and ensure ethical standards in research publishing.

3. CARE discourages publication in **predatory or fake journals** that compromise the quality and ethics of academic work.

4. **CARE group** includes experts in various academic disciplines who evaluate journals based on set criteria.

5. It also aims to **promote Indian academic research** and enhance the visibility of Indian publications globally.

6. CARE is part of UGC's larger vision to enhance **research integrity and academic rigor** in Indian higher education institutions.

Q3. Match List I with List II:

List I	List II
(A) Formative Evaluation	(I) The purpose is to check the aptitude of a candidate for the course or subject. Entrance exam can be conducted for the same.
(B) Placement Evaluation	(II) It provides the student with feedback regarding his/her success or failure in attaining the instructional objectives.
(C) Summative Evaluation	(III) This evaluation provides an explanation for the possible causes for problems in learning.
(D) Diagnostic Evaluation	(IV) It is a method of judging the worth of a <u>programme</u> at the end of <u>programme activities</u> .

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
- (c) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (d) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

Ans.(c)

Sol. The correct matching is:

(A)-(II): Formative Evaluation provides students with feedback about their progress towards achieving instructional goals.

(B)-(I): Placement Evaluation is used to determine a candidate's aptitude for a course or subject, often through entrance exams.

(C)-(IV): Summative Evaluation is conducted at the end of a program to assess its effectiveness.

(D)-(III): Diagnostic Evaluation identifies potential learning problems and their causes.

Information Booster:

- Formative evaluation helps improve learning by giving students timely feedback on their progress.
- Placement evaluation is typically conducted before formal instruction begins to determine the appropriate level of study.
- Summative evaluation assesses the overall success of a program or learning experience, usually through final exams or projects.
- Diagnostic evaluation helps in identifying specific learning difficulties and suggests remedial actions.

Q4. Arrange the following open Universities according to their year of establishment in Chronological order (Older -New):

(A) Yashwant Rao Chavan Maharashtra Open University

(B) Karnataka State Open University

(C) U. P. Rajarshi Tandon Open University

(D) Kota Open University

(E) Madhya Pradesh Bhoj Open University

Choose the correct answer from the options given below:

(a) A, B, C, D, E

(b) D, A, E, B, C

(c) B, C, E, A, D

(d) D, A, B, C, E

Ans.(b)

Sol. The correct chronological order of the establishment of the open universities is as follows:

1. **Kota Open University (D)** - Established in 1987, it was one of the earliest state open universities in India.

2. **Yashwant Rao Chavan Maharashtra Open University (A)** - Founded in 1989, it is located in Nashik, Maharashtra.

3. **Madhya Pradesh Bhoj Open University (E)** - Set up in 1991 in Bhopal, it offers a wide range of distance learning courses.

4. **Karnataka State Open University (B)** - Established in 1996, it is based in Mysuru.

5. **U. P. Rajarshi Tandon Open University (C)** - Founded in 1999 in Prayagraj, Uttar Pradesh.

Information Booster:

1. Kota Open University, now known as Vardhman Mahaveer Open University, was one of the pioneers in distance education.

2. Yashwant Rao Chavan Maharashtra Open University specializes in flexible education for rural and tribal populations.

3. Madhya Pradesh Bhoj Open University is named after the great ruler Bhoj, reflecting its commitment to historical values and modern education.

4. Karnataka State Open University primarily caters to the educational needs of learners from Karnataka.

5. U. P. Rajarshi Tandon Open University is named after Rajarshi Purushottam Das Tandon, who was known for his efforts in promoting education in Uttar Pradesh.

Q5. Given below are two statements

Statement I: Pitroda Commission recommended setting up 1500 universities in India to avoid stagnation in Higher Education.

Statement II: To address the problem of low enrolment in higher education in India, Indira Gandhi National Open Universities was set up in 1975.

In light of the above statements, choose the most appropriate answer from the options given below

- (a) Both Statement I and Statement II are correct
- (b) Both Statement I and Statement II are incorrect
- (c) Statement I is correct but Statement II is incorrect
- (d) Statement I is incorrect but Statement II is correct

Ans.(c)

Sol. Statement I is actually incorrect. The Pitroda Commission (National Knowledge Commission), chaired by Sam Pitroda, did highlight the need to expand higher education access and improve its quality, but it did not specifically recommend establishing 1500 universities to avoid stagnation in higher education.

Statement II is also incorrect because the Indira Gandhi National Open University (IGNOU) was not established in 1975. IGNOU was set up in 1985 to address low enrolment in higher education through distance and open learning, thus improving access and flexibility for learners across India.

Information Booster: 1. Pitroda Commission (National Knowledge Commission): Focused on improving access, inclusivity, and quality in higher education but did not specify setting up 1500 universities.

2. IGNOU Establishment: Founded in 1985, not 1975, with a mandate to promote distance learning and open education.

3. Purpose of IGNOU: Designed to reach a larger population, especially in remote and underserved areas, using open and distance education methods.

4. Higher Education in India: India has taken multiple initiatives to increase access, including digital platforms and distance education programs.

5. National Knowledge Commission Recommendations: Included improving faculty quality, research, curriculum development, and infrastructure in existing universities.

Q5. Identify the correct order of the following memory types in decreasing order of access time.

- (A) RAM
- (B) SSD
- (c) CPU Cache

Choose the correct answer from the options given below:

- (a) A, C, B
- (b) C, A, B
- (c) B, C, A
- (d) B, A, C

Ans.(b)

Sol. The access time for each type of memory, from fastest to slowest, is generally:

- CPU Cache: Fastest access time.
- RAM: Slower than CPU Cache but faster than SSD.
- SSD: Slowest among the three listed.

Q6. Match List I with List II:

List I (Storage device)	List II (Description)		
A.	Solid State Drive (SSD)	I.	Optical media uses concentric tracks to allow simultaneous read-write operations.
B.	ROM	II.	Volatile in nature that stores programs and data in current use.
C.	DVD-RAM	III.	Has no moving part and is therefore a very robust and reliable technology/
D.	RAM	IV.	Non-volatile in nature that stores firmware.

Choose the correct answer from the options given below:

- (a) A-I, B-IV, C-III, D-II
- (b) A-III, B-IV, C-I, D-II
- (c) A-II, B-III, C-I, D-IV
- (d) A-IV, B-III, C-I, D-II

Ans.(b)

Sol. Matching:

A - III (SSD has no moving parts and is very robust and reliable.)

B - IV (ROM is non-volatile and stores firmware.)

C - I (DVD-RAM is an optical media that uses concentric tracks for simultaneous read-write operations.)

D - II (RAM is volatile and stores data and programs currently in use.)

Q7. Formation of photochemical smog involves the following

- (A) Carbon dioxide
- (B) Volatile Organic Carbon
- (C) Sunlight
- (D) Methane
- (E) Nitrogen dioxide

Choose the correct answer from the options given below:

- (a) A, B and C only
- (b) B, C and E only
- (c) A, C and D only
- (d) A, B and D only

Ans.(b)

Sol. Photochemical smog forms due to a complex series of chemical reactions involving **nitrogen oxides (NO_x)**, **volatile organic compounds (VOCs)**, and **sunlight**. These reactions produce secondary pollutants like ground-level ozone, peroxyacetyl nitrate (PAN), and aldehydes.

Key Steps in Formation:

1. **Emission of NO_x and VOCs:** From vehicles, industrial activities, and solvents.

2. **Sunlight Catalysis:** Sunlight drives the photochemical reactions that convert NO₂ into nitric oxide (NO) and oxygen, facilitating ozone formation.

3. **Formation of Smog:** Interaction of ozone, NO_x, and VOCs results in smog.

Information Booster: Photochemical smog is a significant problem in urban areas. It causes respiratory and cardiovascular problems, harms crops, and contributes to climate change. Mitigation strategies include reducing vehicular emissions, adopting cleaner industrial practices, and promoting public transportation.

Additional Knowledge:

- **Carbon dioxide (CO₂):** A greenhouse gas, but it does not directly participate in smog formation.
- **Methane (CH₄):** A potent greenhouse gas, involved in long-term atmospheric reactions but not in photochemical smog.

Q8. Statement I: Total absence of fluoride in drinking water causes dental caries.

Statement II: With presence of fluoride in drinking water, all the dental problems can be avoided.

In the light of the above statements, choose the most appropriate answer from the options given below:

Given below are two statements:

- (a) Both Statement I and Statement II are correct
- (b) Both Statement I and Statement II are incorrect
- (c) Statement I is correct but Statement II is incorrect
- (d) Statement I is incorrect but Statement II is correct

Ans.(c)

Sol. • Statement I is correct: Fluoride in drinking water plays a critical role in preventing dental caries (tooth decay). Fluoride strengthens the enamel by aiding the remineralization process and makes teeth more resistant to acid attacks from plaque bacteria. Studies have shown that areas with an optimal amount of fluoride in water have significantly lower rates of dental caries compared to areas with no fluoride.

• **Statement II is incorrect:** While fluoride helps prevent dental caries, it does not address all dental problems. Other issues, such as periodontal disease (gum disease), enamel erosion due to acidic foods and beverages, and trauma-related dental problems, are unaffected by fluoride presence. Good oral hygiene practices and regular dental check-ups are essential for overall dental health.

Information Booster

- **Fluoride's Role in Dental Health:** The recommended level of fluoride in drinking water is about 0.7 ppm. Excessive fluoride, however, can cause dental fluorosis, leading to discoloration or pitting of teeth.
- **Dental Caries:** It is one of the most common chronic diseases worldwide, caused by demineralization of tooth enamel due to bacterial acids.
- **Limitations of Fluoride:** It does not prevent problems related to improper brushing, gum infections, or other lifestyle factors like smoking and diet.
- **Causes of Dental Caries Without Fluoride:** Lack of fluoride makes the enamel vulnerable to acid attacks. Over time, the damage can lead to cavities.
- **Excess Fluoride (Fluorosis):** Excessive fluoride consumption can lead to mottling of teeth or skeletal fluorosis in severe cases.
- **Non-Fluoride Dental Care:** Proper brushing, flossing, and dietary practices are equally critical in preventing overall dental health issues.

Q9. Which of the following are not the characteristics of Adolescent learners?

- A. They have uniformity in their physical development.
- B. They have stable self-concepts
- C. They often experience mood swings and emotional turmoil.
- D. They have high hopes and aspirations for their future.
- E. They have increased peer group pressure.

Choose the correct answer from the options given below:

- (a) A, C, D and E only
(b) C and D only
(c) B, C and E only
(d) A and B only

Ans.(d)

Sol. The options that are not characteristics of adolescent learners are: **(d) A and B only**

Adolescent learners exhibit a variety of characteristics due to the physical, emotional, and psychological changes they undergo during this stage of development. Among the options provided, the statements that do not accurately represent characteristics of adolescent learners are:

- (a) They have uniformity in their physical development. Adolescents do not have uniformity in their physical development. There is considerable variability in the timing and rate of physical development among adolescents due to factors like genetics, nutrition, and environmental conditions.
(b) They have stable self-concepts. Adolescents often experience changes and instability in their self-concept as they explore different aspects of their identity and how they fit into the world around them.

Q10. Given below are two statements:

Statement I: Teacher centred methods of teaching are more effective than learner centred methods in promoting deep learning.

Statement II: Lecture method involves the use of open-ended problems to encourage critical thinking and problem solving.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both Statement I and Statement II are correct
(b) Both Statement I and Statement II are incorrect
(c) Statement I is correct but Statement II incorrect
(d) Statement I is incorrect but Statement II is correct

Ans.(b)

Sol. Statement I: Teacher-centered methods of teaching are more effective than learner-centered methods in promoting deep learning.

• **Incorrect.** Teacher-centered methods, such as lectures, are typically more focused on the transmission of factual knowledge rather than promoting deep understanding. In contrast, **learner-centered methods**—such as group discussions, problem-solving, and project-based learning—are generally more effective in promoting **deep learning**. These methods encourage active engagement, critical thinking, and a deeper understanding of the material. Research in educational psychology supports the idea that learner-centered approaches facilitate deeper comprehension and retention of knowledge.

Statement II: Lecture method involves the use of open-ended problems to encourage critical thinking and problem solving.

• **Incorrect.** The **lecture method** is a teacher-centered approach where the instructor delivers content to the students in a one-way communication format. It primarily involves the delivery of information and facts, often in a structured and sequential manner. It does not typically involve open-ended problems or promote critical thinking and problem-solving in the same way that interactive or learner-centered methods (like case studies, problem-based learning, or discussions) do. **Open-ended problems** are generally used in more interactive or experiential learning environments where students can engage in discussion, debate, or collaborative activities.