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## UGC NET MEMORY BASED QUESTION-PAPER 1

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

LR- CODING, DECODING, 6,8,108,1296, FALLACY

MATHS-  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{3}{4}$  = 3800 DISTRIBUTION  $\frac{3}{4}$ ?, TRAIN SPEED , DISTANCE

ICT- CPU, RAM, ROM, ALU, PHISING, HACKING

COMM. – GRAPEVINE COMM.

P.D.- RIO SUMMIT, GHG

**MEMORY BASED QUES**

#### Q1. Match List-I with List-II

List I (Computer Components)		List II (Meaning)	
A.	RAM	I.	Brain of the computer
B.	ROM	II.	Stores the date, time and system configuration for BIOS
C.	CMOS	III.	Memory that can be written to and read from
D.	CPU	IV.	Stores 'boot up' program

**Choose the correct answer from the options given below:**

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

**Ans. (b)**

**Sol.**

**1. A. RAM - III (Memory that can be written to and read from):**

**RAM (Random Access Memory)** is a type of volatile memory that allows both reading and writing of data. It temporarily stores data being actively used by the CPU.

**2. B. ROM - IV (Stores 'boot up' program):**

**ROM (Read-Only Memory)** contains non-volatile memory that stores essential programs, such as the **boot-up program** or firmware.

**3. C. CMOS - II (Stores the date, time and system configuration for BIOS):**

**CMOS (Complementary Metal-Oxide Semiconductor)** is a memory chip powered by a battery that stores system settings like the date, time, and hardware configurations for the BIOS.

**4. D. CPU - I (Brain of the computer):**

The **CPU (Central Processing Unit)** is the primary processor of a computer, executing instructions and performing calculations. It is often referred to as the "**brain of the computer.**"

**Additional Knowledge:**

- 1. **RAM:** Volatile, fast, temporary storage for active tasks.
- 2. **ROM:** Non-volatile, stores critical startup instructions.
- 3. **CMOS:** Retains system configurations, powered by a small battery.
- 4. **CPU:** Handles processing, instruction execution, and task management.

**Q2. In the context of MOOCs in Higher Education in India. which of the following are CORRECT?**

- (A) They are learner - centric
- (B) They can be delivered only through SWAYAM portal
- (C) They can benefit large number of learners
- (D) They can be accessed anytime, anywhere and any number of times.
- (E) All MOOCs are for earning credit

**Choose the correct answer from the options given below:**

- (a) A & D Only
- (b) C & D Only
- (c) A, B & E Only
- (d) A, C & D Only

**Ans. (d)**

**Sol.**

**(A) They are learner-centric** – Correct. MOOCs (Massive Open Online Courses) are designed with a focus on the learner’s needs, providing flexibility and personalized pacing.

**(C) They can benefit a large number of learners** – Correct. MOOCs are scalable and can accommodate thousands of learners simultaneously.

**(D) They can be accessed anytime, anywhere, and any number of times** – Correct. One of the core advantages of MOOCs is their accessibility and flexibility for learners.

**Information Booster 1. MOOCs** are free or low-cost courses available online, making education accessible to a broader audience.

**2. SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds)** is India’s indigenous MOOC platform, offering courses from top Indian institutions.

**3. Benefits of MOOCs:**

Flexible learning schedule

Wide reach and scalability

Access to courses from global experts

**4. Challenges in MOOCs:** High dropout rates and lack of personalized feedback.

**5. Popular Global MOOC Platforms:** Coursera, edX, Udacity, FutureLearn, and Khan Academy.

**Additional Knowledge · (B) SWAYAM:** Although significant in India, it is not the only platform for MOOCs.

**(E) Credit-earning:** Not all MOOCs are credit-based; some are for professional or personal skill development.

**Q3. The quantitative research is based on**

- (a) Reductionism
- (b) Grounded theory
- (c) Field notes
- (d) Expansionism

**Ans. (a)**

**Sol. Quantitative research** is primarily based on **reductionism**, which is the approach of breaking down complex phenomena into simpler components to measure and analyze them more systematically. This approach allows researchers to focus on specific variables, isolate them, and use statistical tools to examine relationships and test hypotheses. Quantitative research relies on structured data, numerical analysis, and a deductive approach to understand patterns and make generalizations.

The other options are not foundational to quantitative research:

**Option (b) Grounded theory:** Grounded theory is a qualitative research method focused on generating theories from data collected, usually through interviews and observations.

**Option (c) Field notes:** Field notes are primarily used in qualitative research to record observations, behaviors, and contextual details that cannot be captured numerically.

**Option (d) Expansionism:** Expansionism is not a concept in quantitative research. It generally refers to broadening or extending scope, which is unrelated to the quantitative method's structured and focused approach.

**Information Booster: 1. Reductionism in Quantitative Research:** Allows focusing on specific, measurable variables.

2. **Structured Data Collection:** Uses structured tools like surveys and experiments for data.

3. **Numerical Analysis:** Employs statistical techniques for analyzing data.

4. **Hypothesis Testing:** Based on deducing predictions from theories, which are then tested.

5. **Objectivity:** Aims to maintain objectivity by controlling variables and minimizing researcher influence.

6. **Generalizability:** Often seeks results that can be generalized to broader populations.

#### Q4. Match List I with List II:

List I (Type of Inference)	List II (Description)
(A) Sārtha anumāna	(I) Middle term is always and only negatively related to the Major term.
(B) Parārth anumāna	(II) The terms agree only in presence, there being no instance of their agreement in absence
(C) Kevalānvayi anumāna	(III) No formal statement of the different members of inference
(D) Kevalavyatireki anumāna	(IV) Presented in language and has to be done only to convince others

Choose the correct answer from the options given below:

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

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

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

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

Ans. (c)

**Sol. Sārtha Anumāna (A)-(III):** Sārtha Anumāna is the inference process without formal statements. It refers to a simple reasoning process and does not include explicit elaboration of terms like the middle, major, or minor terms.

**Parārth Anumāna (B)-(IV):** Parārth Anumāna involves inference presented in language to convince others. It explicitly states all steps in the reasoning to ensure the listener or reader follows the logical process.

**Kevalānvayi Anumāna (C)-(II):** This type of inference agrees only in presence. It relies entirely on positive correlations, where there is no instance of disagreement or negation between terms.

**Kevalavyatireki Anumāna (D)-(I):** In this inference, the middle term is only negatively related to the major term, relying on negative instances to establish the relationship.

**Information Booster: 1. Sārtha Anumāna:** Used for self-convincing and informal reasoning.

2. **Parārth Anumāna:** Used to explain or convince others, especially in formal contexts.
3. **Kevalānvayi Anumāna:** Relies solely on positive instances (e.g., universal affirmatives).
4. **Kevalavyatireki Anumāna:** Operates on the basis of elimination or negation.
5. **Anumāna (Inference):** A central concept in Indian logic, especially in Nyaya philosophy.

**Q5. Global warming can lead to/aggravate which of the following natural disasters?**

- (A) Draught
- (B) Earthquake
- (C) Flood
- (D) Storm

**Choose the correct answer from the options given below:**

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

**Ans.(b)**

**Sol.** Global warming can aggravate droughts, floods, and storms, all of which are exacerbated by climate change. Increased temperatures can lead to longer and more intense droughts, cause extreme rainfall patterns resulting in flooding, and intensify storm systems such as hurricanes and cyclones. However, earthquakes are not directly related to global warming as they are primarily caused by tectonic movements.

**Information Booster:** Climate change, driven by global warming, affects weather patterns by increasing the frequency and intensity of extreme weather events. As the planet's temperature rises, the atmosphere holds more moisture, leading to stronger storms and increased rainfall, which can cause flooding. Similarly, warmer temperatures can increase the severity of droughts, especially in areas that are already arid. Increased energy in the atmosphere can also fuel more intense and frequent storms, including hurricanes, cyclones, and typhoons.

**Droughts** are aggravated by global warming as higher temperatures lead to increased evaporation rates, drying out soils and water sources.

**Floods** occur as a result of excessive rainfall, which is more likely with a warming atmosphere. Coastal flooding is also exacerbated by rising sea levels.

**Storms** (hurricanes, typhoons) are becoming more intense and frequent with global warming due to the increase in sea surface temperatures, providing more energy for these storm systems.

**Additional Knowledge:**

**Earthquakes** are unrelated to global warming. They are caused by tectonic forces and plate movements, not climatic conditions.

**Q6. Arrange the following gases in ascending order of their global warming potential (GWP):**

- A. CO<sub>2</sub>
- B. CH<sub>4</sub>
- C. SF<sub>6</sub>
- D. CFC-11
- E. N<sub>2</sub>O



**Choose the correct answer from the options given below:**

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

**Ans. (b)**

**Sol.** The **global warming potential (GWP)** of a gas is a measure of how much heat it can trap in the atmosphere relative to CO<sub>2</sub>, over a specific time period (usually 100 years). The gases in ascending order of GWP are:

**A. CO<sub>2</sub>:** The reference gas with a GWP of 1.

**B. CH<sub>4</sub> (Methane):** GWP of around 25-28 over 100 years, making it more potent than CO<sub>2</sub>.

**E. N<sub>2</sub>O (Nitrous oxide):** GWP of approximately 298, making it much more potent than CH<sub>4</sub>.

**D. CFC-11:** GWP of about 4,660, used in refrigeration, contributing significantly to global warming.

**C. SF<sub>6</sub> (Sulfur hexafluoride):** One of the most potent greenhouse gases, with a GWP of 23,500, making it the most powerful among the listed gases.

**Information booster:**

1. **CO<sub>2</sub>** has the lowest GWP, serving as the reference with a GWP of 1.
2. **CH<sub>4</sub>** is a much stronger greenhouse gas than CO<sub>2</sub> but has a shorter atmospheric lifetime.
3. **SF<sub>6</sub>** is a synthetic gas with an extremely high GWP, used in electrical insulation and industrial applications.
4. **CFCs (chlorofluorocarbons)** are ozone-depleting substances but also have high global warming potential, contributing to both ozone depletion and global warming.
5. **N<sub>2</sub>O** is a potent greenhouse gas emitted from agricultural activities, combustion, and industrial processes.

**Q7. Match List-I with List-II**

List - I (Commission/Committee)		List - II (Chairperson)	
A.	University Education Commission (1948-49)	I.	D. S. Kothari
B.	Sanskrit Commission	II.	K. L. Shirmali
C.	Education Commission (1964-66)	III.	S. Radhakrishna
D.	Committee on Higher Education for Rural Areas (1954)	IV.	Suniti Kumar Chatterji

**Choose the correct answer from the options given below:**

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

**Ans. (c)**

**Sol.** The correct answer is **(c) A-III, B-IV, C-I, D-II**. Here is the correct matching:

**A. University Education Commission (1948-49) – III. S. Radhakrishnan** The University Education Commission, led by Dr. S. Radhakrishnan, was established to assess and recommend improvements for higher education in post-independence India.

**B. Sanskrit Commission – IV. Suniti Kumar Chatterji** The Sanskrit Commission, chaired by Suniti Kumar Chatterji, focused on the promotion and preservation of Sanskrit language and literature.

**C. Education Commission (1964-66) – I. D. S. Kothari** The Education Commission, chaired by Dr. D.S. Kothari, is one of the most comprehensive commissions, focusing on educational reform at all levels, from elementary to higher education.

**D. Committee on Higher Education for Rural Areas (1954) – II. K. L. Shirmali** This committee, led by K.L. Shirmali, concentrated on promoting higher education to develop rural areas and addressing educational challenges specific to rural settings.

**Information Booster:** 1. **University Education Commission (1948-49)** was the first major post-independence educational review and emphasized the autonomy of universities.

2. **Sanskrit Commission** aimed at safeguarding and promoting Sanskrit heritage, cultural studies, and traditional knowledge.

3. **Education Commission (1964-66)** provided a holistic vision, recommending the "10+2+3" structure and emphasizing science and moral education.

4. **Committee on Higher Education for Rural Areas (1954)** aimed to expand educational access to rural regions, promoting rural development through education.

5. Dr. **S. Radhakrishnan's** work in the University Education Commission laid the foundation for many modern higher education policies in India.

6. **D.S. Kothari's** vision influenced policies for science, technical education, and vocational training that remain relevant today.

**Q8. Which of the following tools can be used for traditional offline teaching?**

- (a) Projector
- (b) Powerpoint
- (c) Physical models
- (d) LMS

**Ans. (c)**

**Sol.** Traditional offline teaching refers to methods used in face-to-face classroom settings without relying heavily on digital platforms. **Physical models** are tangible, real-world teaching aids that can be used to demonstrate concepts in subjects like science, mathematics, and geography, making them ideal for traditional offline teaching. Other tools like projectors and PowerPoint rely on digital platforms, and LMS is an entirely online tool, making them less relevant for offline teaching.

**Information Booster:** · Traditional teaching methods focus on **face-to-face interactions** without digital or online tools.

**Physical models** offer a hands-on way to illustrate concepts in a classroom setting.

These methods aim to engage students through **direct learning experiences**.

Traditional teaching emphasizes **interactive learning** through discussions, written materials, and visual aids.

It does not require digital infrastructures like computers, projectors, or learning management systems.

**Additional Knowledge: Projector:** While projectors are often used in modern classrooms, they require digital input (like from a computer) and are not typically part of traditional offline teaching.

**PowerPoint:** PowerPoint presentations are a digital teaching aid and are used in classrooms with the assistance of computers and projectors, making them unsuitable for traditional offline environments.

**LMS:** A Learning Management System is primarily a digital platform used for online or blended learning environments, unsuitable for traditional offline teaching.

**Q9. Which of the following is a teacher-centred method?**

- (a) Problem solving
- (b) Discussion method
- (c) Inquiry approach
- (d) Demonstration method

**Ans. (d)**

**Sol.** The Demonstration method is considered a teacher-centred method. In this method, the teacher actively demonstrates a process or concept while students observe and follow along. This method places the teacher in control of the learning process, with students taking on a more passive role, typically observing and absorbing information.

Information Booster:

1. Teacher-centred methods prioritize the teacher's role as the primary source of knowledge.
2. Students typically have less interaction and more observation in teacher-centred methods.
3. The teacher leads the entire process, ensuring that students are guided step-by-step.
4. It is often used for topics that require precise instructions or technical skill development.
5. Examples include lecture methods, direct instruction, and demonstration methods.

Additional Knowledge: · Problem-solving: This is a student-centred method where learners are encouraged to find solutions to problems using critical thinking. The teacher acts as a facilitator rather than a direct instructor.

Discussion method: Also a student-centred method, this approach involves group discussions where students share ideas and perspectives. The teacher moderates the discussion but allows students to lead the conversation.

Inquiry approach: This is another student-centred method where students investigate questions or problems. The teacher facilitates but does not provide direct answers, encouraging students to explore and discover.

**Q10. Which of the following peripheral devices are considered as only input devices?**

- (A) Speaker
- (B) Barcode Reader
- (C) MODEM
- (D) Graphic Tablet
- (E) Microphone

**Choose the correct answer from the options given below:**

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

**Ans. (a)**

**Sol.** Barcode Reader, Graphic Tablet, and Microphone are input devices.

**Barcode Reader** scans and inputs barcodes.

**Graphic Tablet** allows users to draw or input data using a stylus.

**Microphone** captures audio input.

**Speaker** is an **output device**.



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**MODEM** (Modulator-Demodulator) serves both input and output functions, as it sends and receives data.

**Information Booster:**

1. **Input devices** are hardware components used to provide data and control signals to a computer.
2. **Output devices** are used to output data from the computer to the user.

**Additional Knowledge:**

**MODEM** is a combination of input/output as it sends and receives signals from the internet.

**Speaker** only outputs sound from the computer.

