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ABOUT UGC

The university Grants Commission (UGC) of India is a statutory body set up by the Indian Union Government in 1956, and is charged with coordination, determination and maintenance of standards of higher education. It provides recognition to universities in India and disburses funds to recognised universities and colleges.

UGC NET-JRF

The National Educational Testing Bureau of University Grants Commission (UGC) conducts National Eligibility Test (NET) to determine eligibility for lectureship and for award of Junior Research Fellowship (JRF) for Indian nationals in order to ensure minimum standards for the entrants in the teaching profession and research. The Test is conducted in Humanities (including languages), Social Sciences, Forensic Science, Environmental Sciences, Computer Science and Applications and Electronic Science.

UGC has allocated a number of fellowships to the universities for the candidates who qualify the test for JRF. The JRF is awarded to the meritorious candidates from among the candidates qualifiying for eligibility for lectureship in the NET.

On behalf of UGC, the Central Board of Secondary Education announces holding of the National Eligibility Test (NET) for determining the eligibility of Indian nationals for the Eligibility for Assistant Professor only or Junior Research Fellowship and Eligibility for Assistant Professor both in Indian universities and colleges. CBSE will conduct NET in 83 subjects at 88 selected cities of examination spread across the country.

ELIGIBILITY CRITERIA

Qualification

- The candidates who have secured 55% marks (without rounding off) in Master's Degree or equivalent examination from a university or institution recognised by the UGC in Humanities, Social Science, Computer Science and Electronic Applications.
- Candidates who have appeared or will be appearing at the qualifying Master's Degree examination and whose result is awaited. Candidates whose result has been delayed may also apply for the programme. However, such candidates will be admitted provisionally.
- The Ph.D. degree holders who will have relaxation of 5% in the marks.
- The Scheduled Caste/Scheduled Tribe candidates also have 5% relaxation in marks.

Age

Junior Research Fellowship

- Age of candidate should not be more than 28 years. A relaxation upto 5 years is provided to the candidates belonging to OBC/SC/ST/PWD categories and to female applicants.
- Relaxation will also be provided to the candidates having research experience, limited to the period spent on research in the relevant/related subject of post-graduation degree, subject to a maximum of 5 years, on production of a certificate from appropriate authority.
- Three years relaxation in age will be permissible to the candidates possessing L.L.M. Degree.

Assistant Professor

- There is no upper age limit for applying for eligibility for Assistant Professor.

SLET or SET

While the UGC was drafting the concept of NET as a mandatory requirement for determining the eligibility for lectureship, it also gave an option to various state governments and union territories to conduct their independent tests. It was felt that an eligibility test at the national level might not completely be able to represent the subjects, which are regional.

There was a contention to permit candidates to take the test in their mother tongue. If it is NET at the national level, then SET is its counterpart at the state level. The SLET (State Level Eligibility Test for Lectureship Eligibility) has now been re-christened as SET (State Eligibility Test for Lectureship). The test is conducted both in English and in the vernacular languages. The only other difference being that unlike NET which makes you eligible to teach anywhere in the country, the SET entitles you to teach in any college or university in that particular state. The states or union territories that wish to conduct their own exam have to obtain UGC accreditation, which is granted for a stipulated period.

Paper Pattern

The UGC-NET examination consists of three papers

Paper I is of general nature and is used to assess the teaching research aptitude of the candidates. It is designed to test the reasoning ability, divergent thinking, general awareness and comprehension.

Paper II comprises Multiple Choice Questions (MCQs) based on the subject in which the candidate is taking the examination. There are 50 Objective Type Questions asked in this paper. Paper I and paper II are taken in the same session.

Paper III will be Objective Type and are from the subject opted by the candidate.

Paper	Marks	Questions
Paper I	100	60 questions out of which 50 have to be attempted
Paper II	100	50 questions all are compulsory
Paper III	150	75 questions all are compulsory
Total	**350**	

Procedure & Criteria for Declaration of Result

This will comprise of following steps :

Step I Minimum marks to be obtained in NET for considering a candidate for the award of JRF and eligibility for Assistant Professor :

The candidates are required to obtain minimum marks separately in Paper-I, Paper-II and Paper III as given below :

CATEGORY	Minimum Marks (%) to be obtained		
	PAPER - I	PAPER - II	PAPER - III
GENERAL	40 (40%)	40 (40%)	75 (50%)
OBC (Non-creamy layer) PWD/SC/ST	35 (35%)	35 (35%)	60 (40%)

Note : **The award of JRF and Eligibility for Assistant Professor both or Eligibility for Assistant Professor only will depend on the performance of the candidate in all three papers of NET. However, the candidates qualifying exclusively for Assistant Professor will not be considered for award of JRF.**

Step II Amongst those candidates who have cleared step I, a merit list will be prepared subject-wise and category-wise using the aggregate marks of all the three papers secured by such candidates.

Step III Top 15% candidates (for each subject and category), from the merit list mentioned under step II, will be declared NET qualified for eligibility for Assistant Professor only.

Step IV A separate merit list for the award of JRF will be prepared from amongst the NET qualified candidates figuring in the merit list prepared under step III.

SYLLABUS

Teaching Aptitude

- Teaching Nature, objectives, characteristics and basic requirements
- Characteristics of Learner
- Factors affecting teaching
- Methods of teaching
- Teaching aids and Evaluation systems

Research Aptitude

- Research: Meaning, characteristics and types of Research
- Steps of research, methods of research
- Research Ethics; Paper, article, workshop, seminar, conference and symposium
- Thesis writing: characteristics of thesis writing and format

Reading Comprehension

- A passage to be set with questions to be answered

Communication

- Communication: Nature, characteristics, types, barriers and effective classroom communication

Reasoning (Including Mathematical)

- Number series letter series and codes
- Relationships and classification.

Logical Reasoning

- Understanding the structure of arguments
- Evaluating and distinguishing deductive and inductive reasoning
- Verbal analogies: Word analogy Applied analogy
- Verbal classification
- Reasoning Logical Diagrams : Simple diagrammatic relationship, multi diagrammatic relationship
- Venn diagram and Analytical Reasoning

Data Interpretation

- Sources, acquisition and interpretation of data
- Quantitative and qualitative data
- Graphical representation and mapping of data

Information and Communication Technology (ICT)

- Meaning of ICT, advantages, disadvantages and uses
- General abbreviations and terminology
- Basics of internet and e-mailing

People and Environment

- People and environment interaction
- Sources of pollution
- Pollutants and their impact on human life, exploitation of natural and energy resources
- Natural hazards and mitigation

Higher Education System: Governance. Polity and Administration

- Structure of the institutions for higher learning and research in India, formal and distance education, professional/ technical and general education, value education, governance. polity and administration, concept, institutions and their interactions.

UGC-NET

National Eligibility Test (Paper 1)

Solved Paper 2015 (December)

Instructions

1. This paper consists of Sixty (60) multiple-choice type of questions, out of which the candidate would be required to answer any Fifty (50) questions. In the event of candidate attempting more than, Fifty (50) questions, the first Fifty (50) questions attempted by the candidate would be evaluated.
2. Each item has four alternative responses marked (a), (b), (c) and (d). You have to darken the circle as indicated below on the correct response against each item.
   Example ⓐⓑⓒ, but ● is right answer.
3. Use only Blue/Black ball point pen.
4. There is no negative marks for incorrect answer.

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

Based on the above table, answer the questions from Q. Nos. 1-6.

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

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

Exp. (*d*) Average power availability per person

$$\text{in the year 1971-1981} = \frac{1}{2}\left[\frac{25\times1000}{24} + \frac{40\times1000}{27}\right]$$

$$\approx \frac{1}{2}(1042 + 1481)$$

$$= \frac{2523}{2} \approx 1261$$

Average power availability per person

$$\text{in the year 1981-1991} = \frac{1}{2}\left[\frac{40\times1000}{27} + \frac{50\times1000}{30}\right]$$

$$\approx \frac{1}{2}(1481 + 1667)$$

$$= \frac{3148}{2} = 1574$$

Average power availability per person

$$\text{in the year 1991-2001} = \frac{1}{2}\left[\frac{50\times1000}{30} + \frac{80\times1000}{32}\right]$$

$$\approx \frac{1}{2}(1667 + 2500)$$

$$= \frac{4167}{2} \approx 2083$$

Average power availability per person

in the year 2001-2011 $= \frac{1}{2}\left[\frac{80\times1000}{32}+\frac{100\times1000}{35}\right]$

$\approx \frac{1}{2}(2500+2857)$

$= \frac{5357}{2} \approx 2678$

It is clear from the above detail that average power availability per person was maximum in the year 2001-2011.

2. By what percentage the power production increased from 1951 to 2011?

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

Exp. (a) Power production increased from 1951-2011

$= \frac{(100-10)}{10}\times100\%$

$= \frac{90}{10}\times100\%$

$= 900\%$

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

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

Exp. (c) Percentage increase in between

1951 to 1961 $= \frac{21-20}{20}\times100\% = \frac{100}{20}\% = 5\%$

Percentage increase in between 1961-1971

$= \frac{24-21}{21}\times100\% = \frac{3}{21}\times100\% = 14.29\%$

Percentage increase in between 1971-1981

$= \frac{27-24}{24}\times100\%$

$= \frac{3}{24}\times100\% = 12.50\%$

Percentage increase in between 1981-1991

$= \frac{30-27}{27}\times100\%$

$= \frac{3}{27}\times100\% = 11.11\%$

Percentage increase in between 1991-2001

$= \frac{32-30}{30}\times100\% = \frac{2}{30}\times100\%$

$= 6.67\%$

Percetage increase in between 2001-2011

$= \frac{35-32}{32}\times100\% = \frac{3}{32}\times100\% = 9.38$

∴ Average of percentage growth rate

$= \frac{1}{6}(5.00+14.29+12.50+11.11+6.67+9.38)$

$= \frac{1}{6}\times58.95 = 9.825\% \approx 9.83\%$

∴ Population in year 2021 $= \left(35+35\times\frac{9.83}{100}\right)$ million

$= (35+3.44)$ milliion

$= 38.44$ million

≈ 38.49 million

4. Average decadal growth rate (%) of the population is

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

Exp. (c) Average decadal growth rate

$= 9.825\% \approx 9.82\%$

[**Note** Already considered in Q. No. 3, see detail.]

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

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

Exp. (a) Power availability per person in the year 195

$= \frac{10\times1000}{20} = \frac{1000}{2} = 500\,W$

6. Which decade registered from the maximu growth rate (%) of population?

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

Exp. (*b*) The maximum growth rate of population was in the year (1961-1971).

[**Note** For detail, see Q. No. 3]

7. Which of the following statements are corre about Lok Sabha?

1. The Constitution puts a limit on the size 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 using the codes given below.

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

Exp. (*b*) The maximum strength of the House envisaged by the Constitution of India is 552, which is made up by election of upto 530 members to represent the states, upto 20 members to represent the Union Territories and not more than two members of the Anglo-Indian Community to be nominated by the President of India.

- The size and shape of the parliamentary constituencies are determined by an independent Delimitation Commission, which aims to create constituencies which have roughly the same population, subject to geographical considerations and the boundaries of the states and administrative areas.
- The House is an elected body consisting of 543 members known as Members of Parliament (MPs). Members are elected by Adult Universal Suffrage and a first-past-the-post system to represent their respective constituencies.
- Normally, the Speaker of the Lok Sabha shall not vote in the first instance, but shall have and exercise a casting vote in the case of an equality of votes.

8. 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 using the codes given below.

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

Exp. (c) Article 15 in the Constitution of India says, No citizen shall, on grounds only of religion, race, caste, sex, place of birth or any of them, be subject to any disability, liability, restriction or condition with regard to

- access to shops, public restaurants, hotels and palaces of public entertainment.
- the use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partly out of state funds or dedicated to the use of the general public.

9. 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) 350 GW (b) 175 GW
(c) 200 GW (d) 250 GW

Exp. (*a*) The Indian Government is planning to significantly boost the renewable energy capacity addition target for the medium term as part of its national climate change policy. The government may soon announce a target to have 40% power generation capacity based on renewable energy technologies by 2030. This would translate to around 350 GW by 2030, pushing the country's expected total capacity to 850 GW power generation capacity.

India is looking to raise funds through green bonds and is also looking to secure low-cost debt finance from global development banks.

10. **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.

Codes

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

Exp. (a) Population control measures necessarily help in checking environmental pollution. A good environment may be the factor of population growth but population growth must be factor of environmental growth. So, there is complex relationship between them.

11. Which of the following is an open source software?

(a) Acrobat Reader (b) MS Word
(c) Windows (d) Mozilla Firefox

Exp. (*d*) Open-Source Software (OSS) is computer software with its source code made available with a license in which the copyright holder provides the rights to study, change and distribute the software to anyone and for any purpose. Open-source software may be developed in a collaborative public manner.

Open-source software is the most prominent example of open-source development. SeaMonkey, Mozilla Firefox, Thunderbird and Kompozer are open-source software.

12. At present, in terms of per capita energy consumption (kWh/year), identify the correct sequence.
(a) China > Russia > Brazil > India
(b) Brazil > Russia > China > India
(c) Russia > China > India > Brazil
(d) Russia > China > Brazil > India

Exp. (*d*) At present in terms of per capita energy consumption (kWh/year) highest is Russia (6617) followed by China (3475), Brazil (2462) and in India (744).

13. Which of the following is an instant messaging application?
1. WhatsApp 2. Google Talk
3. Viber
Select the correct answer using the codes given below.
(a) Only 1
(b) 1 and 2
(c) 2 and 3
(d) 1, 2, 3 and 4

Exp. (*d*) Instant Messaging (IM) is a type of online chat which offers real-time text transmission over the Internet. WhatsApp, Google Talk, Viber are one of the instant messaging application.

14. Public Order as an item in the Constitution figures in
(a) the Residuary Powers
(b) the Union List
(c) the State List
(d) the Concurrent List

Exp. (c) Public Order is in State List, but not including the use of any naval, military or air force or any other armed force of the union or of any other force subject to the control of union or of any contingent or unit there of in aid of the civil power.

15. NMEICT stands for
(a) National Mission on E-learning through ICT
(b) National Mission on Education through ICT
(c) National Mission on E-governance through ICT
(d) National Mission on E-commerce through ICT

Exp. (*b*) National Mission on Education through ICT. The National Mission on Education through Information and Communication Technology has been envisaged as a centrally sponsored scheme t leverage the potential of ICT, in teaching and learning process for the benifit of all the learners in Higher Educational Institutions in any time and any where.

16. In a computer a byte generally consists of
(a) 10 bits (b) 4 bits (c) 8 bits (d) 16 bits

Exp. (*c*) A byte consists of 8 adjacent binary digits (bits) each of which consists of a 0 or 1. The string of bits making up a byte is processed as a unit by a computer. Bytes are the smallest operable units of storage in computer technology.

17. Which of the following pollutants can caus cancer in humans?
(a) Ozone (b) Pesticides
(c) Mercury (d) Lead

Exp. (*d*) Exposure to high amounts of lead can cause gastrointestinal symptoms, severely damage the brain and kidneys, and may cause reproductive effects. Large doses of some lead compounds hav caused cancer in lab animals.

18. Which of the following enables us to send th same letter to different persons in MS Word?
(a) Mail merge
(b) Mail join
(c) Mail copy
(d) Mail insert

Exp. (*a*) Now used generically, the term "mail merge" is process to create personalised letters and pre-addressed envelopes or mailing labels mass mailings from a form letter – a word processing document which contains fixed text, which will be the same in each output document and variables.

19. Which of the following phenomena is not natural hazard?
(a) Chemical contamination
(b) Wildfire
(c) Lightning
(d) Landslide

Exp. (*a*) A natural hazard is a naturally occurring event that might have a negative effect on people or the environment. Presence of unwanted man-made substances that make air, water, soil or food unfit for consumption or use.