

Code No.

N – 3576

Entrance Examination for Admission to the P.G. Courses in the Teaching Departments, 2022

CSS

DEMOGRAPHY AND BIOSTATISTICS

General Instructions

1. The Question Paper is having two Parts — Part 'A' Objective type (60%) & Part 'B' Descriptive type (40%).
2. Objective type questions which carry 1 mark each are to be (✓) 'tick marked' in the response sheets against the appropriate answers provided.
3. 8 questions are to be answered out of 12 questions carrying 5 marks each in Part 'B'.
4. **Negative marking** : 0.25 marks will be deducted for each wrong answer in Part 'A'.

Time : 2 Hours**Max. Marks : 100**

To be filled in by the Candidate									
Register Number	in Figures								
	in words								

PART – A

(Objective Type)

Choose appropriate answer from the options in the questions. **One mark each.**

(60 × 1 = 60 marks)

1. A decline in population of India was observed during the period?

a) 1910 – 1911	b) 1911 – 1921
c) 1921 – 1931	d) 1931 – 1941

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2. Which of the following is not a component of human development index?
- a) Life expectancy
 - b) Education
 - c) Women empowerment
 - d) Income
3. What was the largest year for achieving millennium development goals?
- a) 2015
 - b) 2016
 - c) 2017
 - d) 2020

4. As per 2011 census sex ratio of India was 943, it was calculated as
- a) Number of females divided by males x 1000
 - b) Number of males divided by females x 1000
 - c) Number of females divided by males x 100
 - d) Number of males divided by females x 100
5. Which state had the highest sex ratio as per 2011 census?
- a) Mizoram
 - b) Haryana
 - c) Tamilnadu
 - d) Kerala
6. The theory of optimum population was propounded by?
- a) Malthus
 - b) Cannan
 - c) Spencer
 - d) Malthus
7. Demographic dividend refers to?
- a) High proportion of young men and women
 - b) High proportion of adolescents
 - c) High proportion of workforce
 - d) High proportion of educated men and women
8. As per 2011 census, which state had highest proportion of Scheduled caste population
- a) Kerala
 - b) Uttar Pradesh
 - c) Punjab
 - d) Uttarkhand
9. As per 2011 census, which state had lowest level of urbanization
- a) Assam
 - b) Himachal Pradesh
 - c) Bihar
 - d) Assam

10. World Health Day is celebrated on
- a) April 7
 - b) July 11
 - c) June 5
 - d) None of the above
11. Dual Report System is employed in
- a) Civil registration system
 - b) Death auditing
 - c) Sample surveys
 - d) Census operations
12. Building a fairer, healthier world was the theme of
- a) World environment day
 - b) World population day
 - c) World earth day
 - d) World health day
13. The total number of goals set in the millennium development goals was?
- a) 10
 - b) 8
 - c) 12
 - d) 7
14. What is the percentage of world population above the age of 65 years?
- a) About 15%
 - b) About 12%
 - c) About 10%
 - d) About 20%
15. The theme of world environment day 2021 was?
- a) Time for nature
 - b) Beat plastic pollution
 - c) Ecosystem restoration
 - d) Building a greener world
16. The denominator of infant mortality rate is
- a) Live births
 - b) Live births and still births
 - c) Deliveries
 - d) Children in the 0-1 year

17. The pre conception and prenatal diagnostic technique (prohibition of sex selection act) was enacted on?
- a) 1993
 - b) 1996
 - c) 1994
 - d) 1995
18. The first birth control clinic in India was opened at
- a) Madras
 - b) Delhi
 - c) Calcutta
 - d) Bombay
19. The child marriage restraint act of 1929 was sponsored by
- a) Jawaharlal Nehru
 - b) Annie Besant
 - c) Harbilas Sharda
 - d) Mahatma Gandhi
20. In which year National Health Mission was formed?
- a) 2010
 - b) 2011
 - c) 2012
 - d) 2013
21. The denominator of maternal mortality ratio is
- a) Total live births
 - b) Total births
 - c) Women in the 15-49 year
 - d) Total deliveries

22. What is the maximum duration of pregnancy which can be terminated under MTP act (Amended bill 2020)?
- a) 12 weeks
 - b) 20 weeks
 - c) 24 weeks
 - d) None of the above
23. Which of the following states does not belong to empowered action group states?
- a) Jharkhand
 - b) Madhya Pradesh
 - c) Assam
 - d) Rajasthan
24. According to medical certification of causes of death report, What is the leading cause of death in India
- a) Diseases of circulating system
 - b) Disease of respiratory system
 - c) Neoplasm
 - d) Certain infections and parasitic diseases
25. Who is the nodal agency for conducting national family health survey?
- a) Registrar General census of India
 - b) International Institute for Population Sciences
 - c) Ministry of health and family welfare
 - d) Indian council of medical research
26. The term neonatal death refers to deaths in the
- a) First 4 weeks of life
 - b) First week of life
 - c) Within 4 months of births
 - d) None of the above

27. The numerator of young dependency ration is?
- a) Population age 0-15 year
 - b) Population age of 0-14 year
 - c) Adolescents
 - d) Population of 15 year and above
28. The three components of Physical Quality of Life Index are?
- a) Female literacy, life expectancy infant mortality
 - b) Literacy, national income, life expectancy
 - c) National income, life expectancy, literacy
 - d) Literacy, life expectancy, infant mortality
29. The last column of a life table gives
- a) Probability of deaths
 - b) Life expectancy
 - c) Average age at death
 - d) Probability of survival
30. Actual reproductive performance of a women is called
- a) Nuptiality
 - b) Fertility
 - c) Fecundity
 - d) Average family size
31. Failing to reject null hypothesis when it is false is called
- a) Type I error
 - b) Statistical power
 - c) Type II error
 - d) Sampling error

32. In a sample of 400, 20% had a disease. The 95% confidence limits are?
- a) 15%-25%
 - b) 14%-21%
 - c) 16%-24%
 - d) 18%-26%
33. In a Poisson distribution
- a) Mean > variance
 - b) Mean = variance
 - c) Mean < variance
 - d) Mean = SD
34. The theory of testing hypothesis (Parametric) was first developed by?
- a) R A Fisher
 - b) Snedecor
 - c) Neyman
 - d) Pcarsn
35. The shape of Chi square distributes curve is
- a) Negatively skewed
 - b) Positively skewed
 - c) Platykurtic
 - d) None of the above
36. In a Normal distribution mean deviation about mean is approximately
- a) $4/5$ SD
 - b) $5/4$ SD
 - c) $3/2$ SD
 - d) $2/3$ SD

37. The mean of chi square distribution with n degrees of freedom is
 - a) n^2
 - b) \sqrt{n}
 - c) n
 - d) $2n$
38. The mean difference between 9 paired observations is 14 and the SD = 6. The value of t statistic is.
 - a) 6
 - b) 7
 - c) 9
 - d) None of the above
39. If 100 scores in a test have a mean of 25 and SD of 5, what is the Z score corresponding to a score of 30.
 - a) 2
 - b) 1
 - c) 5
 - d) None of the above
40. A variable that assumes only a finite number of values such as 0 or 1 for the purpose of identifying the different categories of a qualitative variable is called.
 - a) Explanatory variable
 - b) Independent variable
 - c) Dummy variable
 - d) Predictor variable
41. The function $f(x)$ and $g(x)$ differentiable. The function $h(x)$ is defined as : $h(x) = g(x)f(x)$. If $f(2) = -1$, $f'(2) = 1$, $g(2) = 4$ and $g'(2) = -2$, what is $h'(2)$?
 - a) 7
 - b) -2
 - c) 0
 - d) 3
42. If $I = \int_0^\pi x/(1 + \sin x) dx$, then $I =$
 - a) π
 - b) $\pi/2$
 - c) 1
 - d) 0

- [illegible]

49. The true value of π up to 5 diameters is 3.14159. the relative error when is approximated as 22/7 is
 - a) .0001
 - b) .0002
 - c) .0004
 - d) None of the above
50. The probability that a new student admitted leave as graduate is 0.4 what is the probability that out of 5 new students ,one will be a graduate
 - a) 0.0776
 - b) 0.2592
 - c) 0.9224
 - d) None of the above
51. What causes greenhouse effect?
 - a) Carbon dioxide
 - b) Carbon monoxide
 - c) Lead
 - d) Sulphur
52. Major portion of western Ghats is located at
 - a) Karnataka
 - b) Maharashtra
 - c) TamilNadu
 - d) Goa
53. The phenomenon where consumers purchase higher priced goods, whereas similar low priced (but not identical) substitutes are available is called
 - a) Giffen effect
 - b) Veblen effect
 - c) Market economy
 - d) None of the above
54. In which year NITI Ayog was formed?
 - a) 2014
 - b) 2015
 - c) 2016
 - d) None of the above
55. In which year National Bank for Agricultural and Rural Development set up?
 - a) 1980
 - b) 1981
 - c) 1982
 - d) 1992

56. Lack of usual social or ethical standards in an individual or group is called?
- a) Assimilation
 - b) Anomie
 - c) Invasion
 - d) Cultural lag
57. Who is considered as father of cultural lag theory?
- a) Max Webber
 - b) Spencer
 - c) Karl Marx
 - d) W F Ogburn
58. Who is considered as founding father of sociology?
- a) Herbert Spencer
 - b) Marie Augustus
 - c) Auguste Comte
 - d) Karl Marx
59. Which of the following is not an example of achieved status?
- a) Education
 - b) Occupation
 - c) Religion
 - d) Club membership
60. In which year the first NGO in India was established?
- a) 1917
 - b) 1905
 - c) 1947
 - d) 1950

ANSWER SHEET — PART – A

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E
13	A	B	C	D	E
14	A	B	C	D	E
15	A	B	C	D	E
16	A	B	C	D	E
17	A	B	C	D	E
18	A	B	C	D	E
19	A	B	C	D	E
20	A	B	C	D	E

21	A	B	C	D	E
22	A	B	C	D	E
23	A	B	C	D	E
24	A	B	C	D	E
25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
32	A	B	C	D	E
33	A	B	C	D	E
34	A	B	C	D	E
35	A	B	C	D	E
36	A	B	C	D	E
37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E
40	A	B	C	D	E

41	A	B	C	D	E
42	A	B	C	D	E
43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
46	A	B	C	D	E
47	A	B	C	D	E
48	A	B	C	D	E
49	A	B	C	D	E
50	A	B	C	D	E
51	A	B	C	D	E
52	A	B	C	D	E
53	A	B	C	D	E
54	A	B	C	D	E
55	A	B	C	D	E
56	A	B	C	D	E
57	A	B	C	D	E
58	A	B	C	D	E
59	A	B	C	D	E
60	A	B	C	D	E

DEMOGRAPHY AND BIOSTATISTICS

PART – B

(Descriptive Type)

Answer **any eight** questions. Each question carries 5 marks. **(8 × 5 = 40 Marks)**

1. Solve the equation using Cramer's rule?

$$3x + 5y = -11$$

$$2x - 3y = 8$$

2. Let X and Y be two random variables, then for $f(x, y) = \begin{cases} kxy & 0 < x < 4 \text{ and} \\ & 1 < y < 5 \\ 0 & \text{otherwise} \end{cases}$

to be joint density function, what must be the value of k .

3. If x_1 and x_2 are two positive values of a variate, prove that their geometric mean is equal to the geometric mean of their arithmetic and harmonic means.
4. What is meant by social group? Explain the difference between primary and secondary groups?
5. Discuss the important agencies of social control.
6. Discuss the agricultural scenario of Kerala.

7. Describe demographic transition in India.
 8. Discuss the unemployment scenario in Kerala.
 9. Reasons for low infant mortality in Kerala.
 10. Discuss the important sources of population data in India.
 11. Discuss the role of NITI Ayog in the development of India.
 12. Discuss the importance of family life education in building a healthy society.
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