

M.Phil/Ph.D (2016)
SECTION A: 30 Questions
(Common for Population Studies and Bio-Statistics)

ENGLISH

1. Besides the items _____ from the almirah, documents were _____ all over the floor.
 - (a) disappearing, thrown
 - (b) deprived, scattered
 - (c) missing, strewn
 - (d) declining, spread
 - (e) clear, split

2. Due to _____ rainfall, they had to _____ cut in water supply.
 - (a) inadequate, impose
 - (b) sufficient, enforce
 - (c) heavy, regulate
 - (d) scanty, lift
 - (e) regular, clamp

3. When I listened to his cogent arguments, all my _____ were _____ and I was forced to agree with his point of view.
 - (a) senses, stimulated
 - (b) doubts, confirmed
 - (c) friends, present
 - (d) questions, asked
 - (e) doubts, dispelled

4. The _____ imposed for non-payment was too _____ for it to bring in improvement in collection.
 - (a) penalty, low
 - (b) fine, severe
 - (c) punishment, harsh
 - (d) toll, simple
 - (e) damage, cruel

5. The treasurer _____ the funds and _____.
 - (a) stole, fled
 - (b) embezzled, absconded
 - (c) robbed, decamped

- (d) purloined, skipped
- (e) cheated, ran

LOGICAL REASONING

6. The city K is 30 km to the southeast of Z, while Y is 50 km to the northwest of K. Also, H is 38 km to the southeast of Y. L lies in the direct route between Y and K and its distance from H is 14 km. G also lies on this route and is exactly midway between L and Y. A car starting from K at 9 am and running at a constant speed towards Y reaches H at 9.24 am, then reaches G at:
- (a) 9.18 am
 - (b) 10.16 am
 - (c) 10.36 am
 - (d) 10.42 am
7. The city K is 30 km to the southeast of Z, while Y is 50 km to the northwest of K. Also, H is 38 km to the southeast of Y. L lies in the direct route between Y and K and its distance from H is 14 km. G also lies on the route and is exactly midway between L and Y. If M is 1 km to the southeast of L, then it is exactly midway between
- (a) H and L
 - (b) Y and K
 - (c) H and Z
 - (d) none of these

RESEARCH METHODOLOGY

8. The characteristics of an experimental design are
- (a) Manipulation
 - (b) Comparison
 - (c) Control of threats to validity
 - (d) All of the above
9. If a measurement is valid
- (a) It is reliable
 - (b) It is not reliable
 - (c) Nothing can be said about reliability
10. Which of the following scales can be suitably used to measure intelligence?
- (a) Nominal
 - (b) Ordinal

- (c) Interval
- (d) Ratio

11. Sample size requirement is highest when

- (a) $p = 0.3$
- (b) $p = 0.4$
- (c) $p = 0.5$
- (d) $p = 0.6$

12. If the estimated sample size for a simple random sampling is 96 HHs, then what will be the sample size for a cluster sampling with a design effect of 2?

- (a) 96
- (b) 192
- (c) 384
- (d) 48

13. A Time series design controls for

- (a) Selection
- (b) History
- (c) Instrumentation
- (d) Testing

14. The inter-coder agreement can be measured by

- (a) Chi-square statistics
- (b) F statistics
- (c) McNemar test
- (d) Kappa statistics

15. ROC curve plots

- (a) Sensitivity
- (b) Specificity
- (c) Sensitivity and specificity
- (d) None of the above

16. Which of the following statement is true of a theory?

- (a) It most simply means “explanation”
- (b) It answers the “how” and “why” questions
- (c) It can be a well developed explanatory system
- (d) All of the above are correct

17. Which scientific method often focuses on generating new hypotheses and theories?

- (a) Deductive method
- (b) Inductive method
- (c) Hypothesis method
- (d) Pattern method

18. Which “scientific method” follows these steps: (1) observation/data, (2) patterns, (3) theory?

- (a) Inductive
- (b) Deductive
- (c) Imductive
- (d) Top down

19. What are the five key objectives of science?

- (a) Prediction, summary, conclusion, explanation, description
- (b) Influence, preduction, questions, exploration, answers
- (c) Exploration, description, explanation, prediction, influence
- (d) Questions, answers, prediction, explanation, summary

20. When interpreting a correlation coefficient expressing the relationship between two variables, it is very important to avoid:

- (a) Checking the strength of relationship
- (b) Jumping to the conclusion of causality
- (c) Checking the direction of the relationship
- (d) Expressing a relationship with a correlation coefficient

21. Which of the following types of reliability refers to the consistency of test scores over time?

- (a) Equivalent forms reliability
- (b) Split-half reliability
- (c) Test-retest reliability
- (d) Inter-scorer reliability

22. Researchers use both open-ended and closed-ended questions to collect data. Which of the following statement is true?

- (a) Open-ended questions directly provide quantitative data based on the researcher’s predetermined response categories

- (b) Closed-ended questions provide quantitative data in the participant's own words
- (c) Open-ended questions provide qualitative data in the participant's own words
- (d) Closed-ended questions directly provide qualitative data in the participant's own words

23. Which of the following statement is true when study population is heterogeneous?

- (a) Sample drawn through SRS will provide more efficient estimates
- (b) Large sample size is necessary to carry out the study
- (c) Stratified sampling procedure will produce more efficient estimates
- (d) All sampling will produce equally efficient estimates

24. When we consider the odd as a response variable in the logit model

- (a) it is a multiplicative model in effects
- (b) it is an additive model in effects
- (c) it is a deductive model in effects
- (d) it is inductive model in effects

25. The product-limit methods are used to estimate

- (a) Bayesian models
- (b) Regressive models
- (c) Stochastic models
- (d) Hazard models

26. Which type of test should be used among the following to test a hypothesis about the performance of graduates from a university that follows the nine-points UGC grading system?

- (a) Parametric test
- (b) Semi-parametric test
- (c) Non-parametric test
- (d) All of the above

27. Scale based on inter-correlations of items is called

- (a) Advance Ratio scale
- (b) Factor scale
- (c) Item Analysis scale
- (d) Percentile scale

28. A sample of haemoglobin with mean value of 12.8 g/dl was taken from 49 adolescents in a district. The standard deviation of the level of haemoglobin among adolescent population is

measured at 2.8 g/dl in the district. Determine 95% confidence interval for the true average haemoglobin level of adolescent population in this district.

- (a) (10.00, 15.60)
- (b) (12.01, 13.58)
- (c) (12.00, 13.60)
- (d) (12.10, 13.90)

29. In the following methods which is NOT a method to carry out Factor Analysis:

- (a) Factor mapping method
- (b) Maximum likelihood method
- (c) Principal component method
- (d) Centroid method

30. We use following type of analysis when we have more than two dependent categorical variables and all independent variables on interval scale:

- (a) Principal component analysis
- (b) Analysis of covariance
- (c) Correspondence analysis
- (d) Discriminant analysis

M.Sc. Biostatistics

1. Choose the most suitable antonym of “NEGLIGENCE”

- (a) diligence
- (b) punctuality
- (c) integrity
- (d) honesty
- (e) meticulousness

2. Owing to the power cut in the area, factories are being forced to _____ men

- (a) throw away
- (b) send off
- (c) put off
- (d) lay off

3. Choose the word which best expresses the meaning of “AUGUST”

- (a) common
- (b) ridiculous
- (c) dignified
- (d) petty

4. In the sentence given below a word is underlined. Below it four choices are given. Pick up the one which is most nearly the same in meaning as the word underlined and can replace it without altering the meaning of the sentence.

He has a **propensity** for getting into debt.

- (a) natural tendency
- (b) aptitude
- (c) characteristic
- (d) quality

5. Scientists are working on new methods to make plants more _____ to disease and harsh weather.

- (a) dependent
- (b) convenient
- (c) resistant
- (d) consistent

6. what is the full form of NITI Ayog

- a) National Institute for Technological Innovation
- b) National Institute for Transforming India
- c) National Institute for Transforming India
- e) National Indian Training Institute.

7. In South Asia, the highest population density is found in

a) Vietnam b) Cambodia c) Malaysia d) Indonesia

8. The power to impose reasonable restrictions on the fundamental rights of Indian citizens rest with
a) the Supreme court b) The Parliament c) The President d) none of the above

9. Which of the following factors are responsible for India's adverse balance of payments (BoP) situation?

a) Euro zone crisis b) high crude oil price c) decline on foreign investment flows d) falling rupee exchange rate

a) A and B only b) A,B and D only c) B and D only d) all of the above

10. For which of the following its capillarity not the only reason?

a) blotting of ink b) rising of underground water c) spread of water drop on a cotton cloth d) rising of water from the roots of a plant to its foliage

11. **Tanya is older than Ena.**

Amir is older than Tanya

Ena is older than Amir.

If the first two statements are true, the third statement is

- A. True
- B. False
- C. Uncertain
- D. Not applicable

12. which number replaces the question mark ?

A.4

B.6

C.9

D. 11

13. Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour?

- A. 9
- B. 10
- C. 12
- D. 20

14. If you're a fitness walker, there is no need for a commute to a health club. Your neighborhood can be your health club. You don't need a lot of fancy equipment to get a good workout either. All you need is a well-designed pair of athletic shoes.

This paragraph best supports the statement that

- A. fitness walking is a better form of exercise than weight lifting.
- B. a membership in a health club is a poor investment.
- C. walking outdoors provides a better workout than walking indoors.
- D. fitness walking is a convenient and valuable form of exercise.
- E. poorly designed athletic shoes can cause major foot injuries

15. Which word does NOT belong with the others?

- A. wing
- B. fin
- C. beak
- D. rudder

16. Population density is measured as

- a) No. of person per square meter
- b) No, of person in thousand
- c) No. of person in million
- d) No of person per square kilometers.

17. Average human survival is measured by

- a) Central Death rate
- b) Maternal Mortality
- c) Natural growth
- d) Life expectancy at birth

18. Which is not a vital event of human life from the following

- a) Birth
- b) Death
- c) Job
- d) Marriage

19. In India Census is carried out

- a) Every year
- b) Every five year
- c) Every ten year
- d) Every month

20 Arrange the following Indian States in ascending order of their population size: Bihar, Uttar Pradesh, West Bengal, Maharashtra

- a) Uttar Pradesh, West Bengal, Bihar, Maharashtra
- b) Maharashtra, Uttar Pradesh, West Bengal, Bihar
- c) Bihar, U.P. , Maharashtra, West Bengal
- d) West Bengal, Bihar, Maharashtra, UP

Msc

21. Headquarter of WHO is at

- A) Paris
- B) New Delhi
- C) Geneva
- D) Washington

22. The constant presence of diseases or infectious agents within a given geographic area or population group is called as

- A. Pandemic disease
- B. Epidemic disease
- C Chronic disease
- D. Endemic Disease

23. Which of the following is an active form of immunization?

- A. Maternally-derived antibodies
- B. Anti-venoms
- C. Immune-serum
- D. Vaccination

24. If the severity of pain is recorded using the symbols 0, I,II,III, IV, the scale used is:

- A. Ordinal
- B. Numerical
- C. Interval

D. Nominal

25. The Student's 't' test is

- A. a test for comparing proportions
- B. a parametric test
- C. a nonparametric test
- D. a test for comparing variances

26. Which of following is correct regarding oral contraceptives

- A. They prevent fertilization
- B. They prevent ovulation
- C. They prevent implantation
- D. They are spermicidal

27. Ergonomics means

- A. Fitting a man to a job
- B. Fitting a job to a man
- C. Welfare of labourers
- D. Industrial mechanization

28. Nalgonda technique is used for

- A. Solid waste disposal
- B. Defluoridation of water
- C. Food fortification
- D. Creation of environment friendly fuel

29. Women have greater risk of HIV infection compared to men because

- A. They are passive partners
- B. Presence of Estrogen
- C. Genetic composition
- D. Large mucosal surface of genitals

30. Which of the following vaccine can prevent against cervical cancer?

- A. Rubella
- B. MMR
- C. HPV
- D. Hib

31. An ANOVA procedure is applied to data obtained from 6 samples where each sample contains 20 observations. The degrees of freedom for the critical value of F are

- a. 114 numerator and 5 denominator degrees of freedom
- b. 5 numerator and 19 denominator degrees of freedom

- c. 5 numerator and 114 denominator degrees of freedom
- d. 19 numerator and 5 denominator degrees of freedom

32. Which is NOT correct?

- a. The standard error is relevant to summary statistics such as mean, proportions, differences, regression slopes, etc.
- b. The standard error is a measure of the uncertainty in a sample statistics
- c. The standard error is relevant when variability between individuals is of interest.
- d. The standard error is standard deviation present in a sampling distribution

33. In a binomial distribution, $n=20$ and $p=0.20$. what would the mean number of survivors?

- a. 16
- b. 2
- c. 3
- d. 4

34. The number of times each experimental condition is observed in a factorial design is known as

- a. Partition
- b. replication
- c. experimental condition
- d. factor

35. The required condition for using an ANOVA procedure on data from several populations is that the

- a. the selected samples are dependent on each other
- b. sampled populations are all uniform
- c. sampled populations have equal variances
- d. sampled populations have equal means

36. When a sampling frame has a systematic pattern in the listing of sampling units, rather than a random pattern,

- a. a systematic sample must be drawn
- b. the problem of periodicity exists
- c. a random error occurs
- d. a cluster sample must be used

37. A sample statistic, such as a sample mean, is known as

- a. statistic
- b. a parameter
- c. the mean deviation

d. the central limit theorem

38. A researcher has computed 95% and 99% confidence interval (CI) for a given data set. Which one is the best answer?

a. the width of 95% CI would be wider than 99% CI

b. the width of 99% CI would be wider than 95% CI

c. the width of 95% CI and 99% CI would be equal

d. It depends upon the given data set

39. $\sin x + i \cos 2x$ and $\cos x - i \sin 2x$ are conjugate to each other for

a. $x = n\pi$

b. $x = (n + 1/2)\pi/2$

c. $x = 0$

d. no value of x

40. The value of $\text{arc}(x)$ when $x < 0$ is:

a. 0

b. $\pi/2$

c. π

d. none of these

41. A curve has equation $y = 4x - x^2$

π

42. In simplex method, feasible basic solution must satisfy the

a. non-negativity constraint

b. negativity constraint

c. basic constraint

d. common constraint

43. In ordered pair $(-8,6)$ of linear equation, y-intercept is

- a. -6
- b. 6
- c. 8
- d. -8

44. In multiple regression analysis, the term “R” indicates:

- a. correlation coefficient
- b. level of significance
- c. coefficient of determination
- d. coefficient of variation

45. In a breast cancer-screening program, 2000 women underwent mammography and 200 were found to be positive. Of these 200 positives, only 150 were confirmed to have breast cancer. In addition, 70 women were found to have breast cancer with their mammography showing normal. What is the probability of a woman having breast cancer, given that her mammography was negative?

- a. $150/200$
- b. $270/2000$
- c. $70/1800$
- d. $70/1730$

46. If it has been observed that the probability of getting a boy is equal to 0.6 and that of a girl is 0.4. The probability of getting 2 boys for a couple if they are going to children is:

- a. 0.16
- b. 0.24
- c. 0.48
- d. 0.36

47. One or two tail test will determine.

- a. if the two extreme values (min or max) of the sample need to be rejected

- b. if the hypothesis has one or possible two conclusions
- c. if the region of rejection is located in one or two tails of the distribution
- d. none of these

48. Exponential smoothing is

- a. a method to use number exponents to smooth the time series.
- b. one of the forecasting methods
- c. a method of testing linearity
- d. none of these

49. one –stage sampling is

- a. interview a sample of households in each selected cluster
- b. interview only 50% of total households in each selected cluster
- c. interview every household in the selected cluster
- d. none of these

50. Which of the following is not true about stratified random sampling?

- a. It involves a random selection process from identified subgroups.
- b. Proportions of groups in the sample must always match their population proportions
- c. Disproportional stratified random sampling is especially helpful for getting large enough subgroup samples when subgroup comparisons are to be done.
- d. Proportional stratified random sampling yields a representative sample.

Artists are generally whimsical, some of them are frustrated. Frustrated people are prone to be drug addicts. Based on these statements which of the following conclusions is true?

- A. All frustrated people are drug addicts.
- B. Some artists may be drug addicts
- C. All drug addicts are artists.
- D. Frustrated people are whimsical

SECTION B; Only for Biostatistics and Epidemiology

1 Match the following

Indicators

Numerator

a. Incidence

i. No. of deaths

b. Case fatality rate

ii. All cases of a disease in a year

c. Crude death rate

iii. New cases of a disease in a year

d. Prevalence rate

iv. No. of death in a year among cases with certain characteristic

	a	b	c	d
(A)	iv	iii	i	ii
(B)	iii	iv	i	ii
(C)	i	iv	iii	ii
(D)	i	ii	iii	iv

2. To compare the safety of the medicine with another medicine it would be necessary to:

- review the evidence from Phase I clinical trials.
- review the evidence from Phase II clinical trials.
- review the evidence from a Phase III trials.
- review the evidence from Phase IV trials

3. The mode of transport of an infectious agent through the environment to susceptible host is called a:

- reservoir
- carrier
- vehicle
- vector

4. When designing a study to determine whether there is a direct association between a particular exposure and an outcome, one should anticipate that potential alternative explanation(s) may exist.

Which of the following is a way to deal with confounding?

- a. Post-hoc blocking
- b. Screening
- c. Randomization
- d. validation

5. for a disease to be an endemic, the basic reproductive number should be

- a. 0
- b. 1
- C. 2.
- D. 3

6. What proportion of a population needs to be vaccinated to eradicate a disease having a basic reproductive number 5?

- a. 25%
- b. 50%
- c. 60%
- d. 80%

7. The assumption (s)of linear regression is (are)

- a. Linearity
- B. Independence
- c. Homoscedasticity
- d. All the above

8. A rectangle-shaped population indicated a country that is

- a. growing slowly or not at all
- b. growing rapidly,
- c. experiencing high immigration rates.
- d. composed mainly of the older age classes,

9. Which one of the following is not a survival distribution?

- a. Normal distribution
- b Exponential distribution
- c. Weibull distribution
- d. Gamma distribution

10. The association of an exposure and a disease is measured by calculating

- a. Relative risk in a case control study
- b. Odd ratio in a case control study
- c. Odd ratio in a cohort study
- d. None of the above

11. The most important characteristic of an analytical epidemiological study in comparison to descriptive study is

- a. Lab confirmation of diagnosis
- b. Trend analysis
- c. Statistical analysis using proper test of significance
- d. Presence of an appropriate comparison group

12. Which of the following best describes the Public health surveillance?

- a. A program to control disease outbreaks
- b. A method to monitor occurrences of public health problems
- c. C a programme for collecting health-related information
- d. D. a system for monitoring persons who have been exposed to a communicable disease

13. The primary use of the standard error of the mean is in calculating the:

- a. Variance
- b. Confidence interval
- c. Standard deviation
- d. All of these

14. Which one of the following diseases is a communicable?

- a. Rickets
- b. Cancer
- c. Diabetes
- d. D. amoebiasis

15. Most common cause of neonatal mortality in India is

- A. Low birth weight
- B. Acute respiratory tract infections
- C. Acute diarrheal diseases
- d. Congenital malformations

16. A study was conducted to assess physician's ability to detect malaria in 178 patients coming to hospital.

The clinical impression of the physician was compared to blood smear examination. 54 patients were positive for blood smear examination and 39 out of them were diagnosed by physician as

malaria. 124 were having negative blood smear examination and physician diagnosed 25 of them as having malaria. The specificity of physician's of physician's clinical judgement is –

- A. 54/178
- B. 25/54
- C. 99/124
- D. 39/54

17. Which one of the following desirable characteristics of health information is THE LEAST IMPORTANT in a crisis context?

- a. Precision
- b. Timeliness
- c. Validity
- d. Cost

18 Chlorination of water is which level of prevention

- A. Primary
- B. Secondary
- C. Tertiary
- D. All above

19. During embryonic development, development of testes takes place in:

- A. Scrotum
- B. Abdominal Cavity
- C. Thoracic cavity
- D. Inguinal Canal

20. Which of the following is not related to ethical issues?

- A. Declation of Helsinki
- B. Nuremberg Code
- C. WHO Good Manufacturing practices
- D. None of these

SECTION B: Only for Population Studies

1. The unit for presenting of Maternal Mortality Ratio is expressed in which of the following?

- A) Percentage live birth
- B) Per thousand live birth
- C) Per ten thousand live birth
- D) Per one lac live births

2. What is the type of growth proposed by Malthus for population and food production?
 - A) Fractionally and progressively
 - B) Geometrically and exponentially
 - C) Arithmetically and exponentially
 - D) Geometrically and arithmetically

3. According to Prof. Bogue, the rapid decline in mortality being witnessed in most of the developing countries was due to fall in which group of diseases?
 - A) Death from violence
 - B) Cancer
 - C) Infection, parasitic and respiratory disease
 - D) Diseases of circulatory system

4. A quick way to calculate approximately doubling time for a country's population is:
 - A) $35/\text{population growth rate (\%)}$
 - B) $70/\text{Population growth rate(\%)}$
 - C) $140/\text{Population growth rate(\%)}$
 - D) $210/\text{Population growth rate\%}$

5 Match the following

List – 1

- a. Without social change, population problem can not be solved.
- b. There is no point in spending money on malnourished children.
- c. Prominate determinants of fertility
- d. Stable population model

List - II

- i. Bongaarts
- ii. Lotka
- iii Maurice King
- iv Kingsley Davis

- | | a | b | c | d |
|----|-----|-----|-----|----|
| A) | iv | iii | I | ii |
| B) | iii | I | ii | iv |
| C) | i | iv | iii | ii |
| D) | i | ii | iii | iv |

6. What is horizontal and vertical equity? Select the right answer.

- A) Horizontal and vertical equity both refers to reduce gap between rich and poor.
- B) Horizontal equity deals with poor population groups but vertical equity deals with rich population groups.
- C) Horizontal equity deals with issues across population and vertical equity deals with issues related to specific population groups.
- D) Horizontal equity deals with poverty and vertical equity deals with richness.

7. What is the correct definition of Unmet Need of Contraception?

- A) Proportion of married women not using any modern contraceptive and do not want a child any more.

B) Proportion of fecund married women who either do not want any more children or wish to postpone the birth of their next child for at least two more years but not using any modern method of contraception.

C) Proportion of married women who are not satisfied with the contraceptives used by them.

D) Proportion of married women want to use modern method of contraception but not able to get it.

8. At the present rates of population growth of India and China, by which year is India likely to overtake China as the world's most populous country?

a. 2025

b. 2040

c. 2030

d. 2050

9. Which of the following statements is/are true?

1. Population of Bihar is more than that of Maharashtra.

2. Population of West Bengal is less than that of Bihar

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

10. Which one is not a Migration Model?

(a) Shep's Model

(b) Todaro's Model

(c) Cost-Benefit Model

(d) Stouffer's Model

11. Which of the following countries is at stage two of the demographic transition model?

(a) San Marino

(b) Nigeria

(c) Denmark

(d) Russia

12. The population distribution in the world is

(a) Even across the globe

(b) Slightly uneven; Europe is densely populated

(c) Very uneven; the developed countries are densely populated

(d) Very uneven: the less developed countries are densely populated

13. Rural-Urban growth difference method for projecting the level of urbanization follows the

(a) Normal curve

(b) Cumulative normal curve

- (c) Sigmoid curve
- (d) Exponential curve

14. The term T_{45} in life tables means

- (a) Total number of persons lived after age 45 years
- (b) Total number of persons-years lived after age 45 years
- (c) Total number of persons lived before age 45 years
- (d) Total number of persons-years lived before age 45 years

15. Which of the following is NOT a proximate determinant of fertility?

- (a) Permanent Abstinence
- (b) Post-partum Infecundability
- (c) Married Proportions
- (d) Induced Abortion

16. Find the correct equation for Coale and Trussel (1974)'s age-patterns of fertility (in its usual notation) from the following

- (a) $M + n(a).e^{m.v(a)}$
- (b) $M + n(a).e^{m+v(a)}$
- (c) $M.n(a).e^{mv(a)}$
- (d) $M(a).n(a).e^{m(a).v(a)}$

17. Theoretical concept of the natural fertility in the discipline of demography was first coined by

- (a) J. Bongaarts
- (b) Ansley J. Coale
- (c) Kingsley Davis
- (d) Louis Henry

18. Which of the following is **not** true for population pyramids?

- (a) Each horizontal bar of the pyramid represents the proportion of male and female in a particular age group out of total population
- (b) Each horizontal bar of the pyramid represents the proportion of male of the total male population and proportion of female of the total female population in a particular age group
- (c) Both absolute numbers or proportions can be used to plot the female and male population
- (d) Pyramids can be used to study the effect of wars etc. on the population

19. According to Coale and Hoover theory:

- (a) Population growth will promote economic development, as proved by remarkable economic growth witnessed in Mexico in 1980s coexistent with highest population growth rates
- (b) Population growth promotes human capital formation
- (c) Population growth hinders economic development due to slowing down of capital investment
- (d) Population growth hinders economic development due to environmental degradation

20. Boserup Hypothesis suggests that

- (a) Agricultural expansion takes place as population density increases on agricultural land
- (b) Increase in population density results in agricultural intensification on the available land
- (c) Population growth does not change the agricultural practices and has no relationship with agricultural intensification or expansion
- (d) None of the above

