## Entrance Examination 2020 - PhD _ Health Science

| Sl No | Question | Answer | OptionA | OptionB | OptionC | OptionD |
|---|---|---|---|---|---|---|
| 1 | Emmanuelle Charpentier and Jennifer A. Doudna received Nobel prize in the year 2020 for the development of a method for genome editing in the field of: | B | Physics | Chemistry | Physiology | Medicine |
| 2 | Due to an increase in taxes on electronic devices, the price of a cooler has increased to Rs. 8450, which is 30% increase of the original price. What was the original price of the cooler prior to its increase? | C | 5154.5 | 5915.0 | 6500 | 6760 |
| 3 | One-tenth of one bag of potatoes weighs the same as one-seventh of one bag of small pebbles. What is the ratio of the weight of 2 bags of potatoes to 3 bags of pebbles? | B | 7:15 | 20:21 | 21:20 | 3:2 |
| 4 | A and B started a business by investing Rs. 36,000 and Rs. 63,000 each. Find the share of each, out of the annual profit of Rs. 5500. | A | Rs. 2000, Rs. 3500 | Rs. 2500, Rs. 3500 | Rs. 3500, Rs. 2500 | None of these |
| 5 | A sum of Rs. 13,950 should be divided among three persons A, B and C. B must get the double of A's share and C must get Rs. 50 less than the double of B's share. The share of A will be: | C | Rs. 1950 | Rs. 1981.25 | Rs. 2000 | Rs. 2007.75 |
| 6 | GENEALOGY: ANCESTRY, ENTOMOLOGY:_____ | B | Words | Insects | Fossils | Inscriptions |
| 7 | Which number comes next in this sequence? 1, 1.5, 2.5, 4,___? | D | 9 | 8 | 7 | 6 |
| 8 | If 3 less than twice a certain number is equal to 2 more than 3 times the number, then 5 less than 5 times the number is: | A | -30 | -20 | -5 | 0 |
| 9 | _____ helps in veiwing objects at the surface of water from a submarine under water | A | Periscope | Kaleidoscope | Telescope | Spectroscope |
| 10 | A person has the capability of thinking 100 lines of code in five minutes and can type 100 lines of code in 10 minutes. He takes a break for five minutes after every ten minutes. How many lines of codes will he complete typing after an hour? | B | 100 | 250 | 350 | 600 |
| 11 | A pescatarian is someone who eats | C | Egg | Chicken | Fish | Clams |
| 12 | If 'a' is the smallest prime number greater than 50 and 'b' is the largest prime number less than 10, then ab = | B | 299 | 371 | 229 | 261 |
| 13 | According to the Centre for Disease Control (CDC), what does 'N' in the N95 respirator stand for? | A | Not resistant to oil | Not resistant to water | Number of particles | Not resistant to bacteria |
| 14 | What is the greatest value of x for which $(3x-2)(x+1) = 0$ ? | C | -1 | -2/3 | 2/3 | 1 |
| 15 | For safety, the fuse wire used in the mains for household supply of electricity must be made of metal having | B | high resistance | low melting point | low specific heat | high melting point |
| 16 | The radius as well as the height of a circular cone increases by 10%. The percentage increase in its volume is _____. | C | 17.1 | 21 | 33.1 | 72.8 |
| 17 | The perimeters of a circle, a square and an equilateral triangle are equal. Which one of the following statements is true? | A | The circle has the largest area. | The square has the largest area. | The equilateral triangle has the largest area. | All the three shapes have the same area. |
| 18 | In doing action research what is the usual sequence of steps? | B | Reflect, observe, plan, act | Plan, act, observe, reflect | Plan, reflect, observe, act | Act, observe, plan, reflect |
| 19 | Escape velocity of a rocket fired from the earth towards the moon is a velocity to get rid of the | C | Centripetal force due to the earth's rotation | Moon's gravitational pull | Earth's gravitational pull | Pressure of the atmosphere |
| 20 | A, B and C are intelligent, A, D and E are laborious and D, C and E are honest and A, B and E are ambitious. Who is neither laborious nor honest? | B | A and D | B only | E only | C only |
| 21 | Which is the odd number in the series:  81, 121, 169, 289, 361 | A | 81 | 169 | 289 | 361 |
| 22 | Which pair of words  among the following are odd ones Crime and Punishment, Exercise and Health, Judgement and Advocacy, Hardwork and Success, Slowth and Failure | C | Slowth and Failure | Hardwork and Success | Judgement and Advocacy | Exercise and Health |
| 23 | Select the lettered pair that best expresses a relationship similar to that expressed in the original pair COLOR : SPECTRUM | A | tone : scale | sound : waves | dimension : space | cell : organism |
| 24 | Frederick Sanger is a twice recipient of the Nobel Prize for | C | Chemistry in 1954 and Peace in 1962 | Physics in 1956 and 1972 | Chemistry in 1958 and 1980 | Physics in 1903 and Chemistry in 1911 |
| 25 | Fill up the blanks in the following sentence "Early _____ of hearing loss is _____ by the fact that the other senses are able to compensate for moderate amounts of loss, so that people frequently do not know that their hearing is imperfect. | C | discovery . . Indicated | development . . prevented | detection . . complicated | treatment . . facilitated |

| 26 | Choose word or phrase that is most nearly opposite in meaning to the word DIFFUSE | A | concentrate | contend | imply | pretend |
|---|---|---|---|---|---|---|
| 27 | Select the lettered pair that best expresses a relationship similar to that expressed in the original pair Antidote: Poison | B | Cure: recovery | Tonic: lethargy | Narcotic: sleep | Stimulant: relapse |
| 28 | The corporation expects only _____ increases in sales next year despite a yearlong effort to revive its retailing business. | D | dynamic | predictable | expanding | modest |
| 29 | Although it does contain some pioneering ideas, one would hardly characterize the work as _____. | C | orthodox | eccentric | original | trifling |
| 30 | NITI Aayog was established in? | B | 03-Jan-19 | 01-Jan-15 | 01-Sep-15 | 26-Jan-19 |
| 31 | Choose word or phrase that is most nearly opposite in meaning to the word AMALGAMATE | D | Circulate | Reduce | Endure | Separate |
| 32 | Choose word or phrase that is most nearly opposite in meaning to the word ENERVATE | C | Recuperate | Resurrect | Strengthen | Gather |
| 33 | A rectangle becomes a square when its length and breadth are reduced by 10 m and 5 m, respectively. During this process, the rectangle loses 650 sq.m of area. What is the area of the original rectangle in square meters? | B | 1125 | 2250 | 2500 | 4500 |
| 34 | A set of 4 parallel lines intersect with another set of 5 parallel lines. How many parallelograms are formed? | C | 20 | 48 | 60 | 72 |
| 35 | Which metal is used for galvanizing iron? | D | Lead | Copper | Aluminium | Zinc |
| 36 | This simple discovery led to a population boom in 1900 | B | Pencillin | Haber-Bosch Process | Small pox vaccine | none of the above |
| 37 | A wire would enclose an area of 1936 sq.m, if it is bent into a square. The wire is cut into two pieces. The longer piece is thrice as long as the shorter piece. The long and the short pieces are bent into a square and a circle, respectively. Which of the following choices is closest to the sum of the areas enclosed by the two pieces in square meters? | C | 1096 | 1111 | 1243 | 2486 |
| 38 | Whose autobiography is the book " My Music, My Life" | B | Pandit Shiv kumarsharma | Pandit Ravi Shankar | Ustad Zakir Hussain | ustad Amjad Ali Khan |
| 39 | In which one of the following countries, is Tamil a major language? | A | Singapore | Indonesia | Mauritius | Myanmar |
| 40 | Biotic index gives us an idea about the pollution of: | A | water | air | sound | all the above |
| 41 | Following statement is true for a Primary Health Center in India | B | Primary Health Centers are for preventive care only | Primary Health Centers can conduct normal deliveries | Primary Health Centers can conduct Cesarean section (surgical procedure to | All Primary Health Centers should have a lady medical officer. |
| 42 | The main thrust of National TB control program is to detect | A | Sputum positive cases | X ray positives | Chest symptomatic | Extra pulmonary Tuberculosis |
| 43 | What is the nature of income distribution of a population? | B | Negatively skewed | Positively skewed | Symmetric | Uniform |
| 44 | Which of the following is a post hoc multiple comparison method? | B | Wilcoxon | Bonferroni | Hotelling | Levene's |
| 45 | What is the technical term used to describe the summarizing and notes writing that accompany the process of coding in qualitative research? | C | Re-coding | Summarizing | Memoing | Transcribing |
| 46 | "Walking a mile in another person's moccasins" is about | C | physical activity | Listening | Empathy | Sympathy |
| 47 | Internal Rate of return is | C | Net Present Value | Present value of the project | The rate of discount which makes the NPV of the project zero | A tool used for performing cost effectiveness analysis |
| 48 | The steps in team building are, | D | Forming, Storming, Informing and Performing | Forming, Norming, Informing and Performing | Informing, Storming, Norming and Performing | Forming, Storming, Norming and performing |
| 49 | The state with highest proportion of elderly people (those above the age of sixty years) in India according to 2011 census is: | C | Tamil Nadu | Maharashtra | Kerala | Punjab |
| 50 | Which of these is not a main organization of the United Nations? | B | World Health Organization | International Monetary Fund | International Court of Justice | Economic and Social Council |
| 51 | What is the meaning of expectation of life at birth? | A | Average number of years that a newborn is expected to live if current mortality rates continue to apply. | Average number of years that a newborn is expected to life if the current rates of fertility continue to apply | Median years that a cohort is expected to live if the current rates of mortality continue to apply | Median years that a cohort is expected to live if the current rates of fertility continue to apply |

| # | Question | Ans | A | B | C | D |
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| 52 | Which of the following are the most important indicators for measuring the effect of screening? | C | Disease specific survival | Sensitivity and specificity of the test. | Incidence and Mortality | Number of cases detected at earlier stages |
| 53 | Which of the following is NOT one of the 17 Sustainable Development Goals (SDGs) that are the continuum of the 8 Millennium Development Goals (MDGs)? | D | Sustainable Cities and Communities | Industry, Innovation and Infrastructure | Good Health and Well Being | House and employment for all |
| 54 | Ideal temperature for keeping all the vaccines for the immunization program in a Primary Health Center | C | Minus 30 degree Celsius | Room Temperature | 2-8 degree Celsius | Sub zero temperature |
| 55 | Vitamin A deficiency is maximum in children between the ages of | C | 3 years to five years | Less than 6 months | 6 months to 3 years | 5 years to 10 years |
| 56 | The quality of a product is determined by which one of the following | D | Higher the price higher the quality | Lower the price higher the quality | Higher the price lower the quality | None of the above |
| 57 | Globally at birth, there are: | C | More females than males | An equal number of males and females | More males than females | The sex ratio at birth varies from country to country |
| 58 | According to the 2018 revision of international poverty line by the World Bank, the international poverty line for low-middle income countries including India is an income around | A | $ 3.20 per day at the 2011 purchasing power parity | $1.25 per day at the 2005 purchasing power parity | $1.90 per day at the 2007 purchasing power parity | $1.25 per day at the 2008 purchasing power parity |
| 59 | Which intervention would be the most cost-effective in averting DALYs in South Asia? | B | Coronary by-pass graft | Childhood vaccination | Prevention of maternal deaths | TB treatment |
| 60 | Pick the CORRECT pairing from among the following with respect to health problems in India | B | Leprosy: Public health problem | Guinea worm: Eradicated | Polio: Controlled | Tuberculosis: Eliminated |
| 61 | For setting up surveillance for a disease, we need | B | A representative sample | Good quality reporting | Specialist investigators | A good computer program |
| 62 | A confounding variable has the following characteristic: | D | It is associated with exposure only | It is a hidden variable | It is associated with outcome only | It is associated with outcome as well as exposure independently |
| 63 | A study reports that from published data, it can be seen that in countries with reported high levels of consumption of alcohol, rates of road traffic accident are also high. What would you call the design of this study? | C | Policy study | Qualitative study | Ecological study | Retrospective study |
| 64 | To have a high positive predictive value, you need to increase the _____ of the screening tool | A | Specificity | Sensitivity | Accuracy | Yield |
| 65 | To increase the 'yield' in screening, one way is to do parallel screening. Parallel screening refers to: | A | Screening the same people using different screening tests on each of them | Screening the same people with the same screening test repeatedly | Screening the same people with different tests on different people | Screening different groups with the same screening test |
| 66 | 'Effect modification' is another term for | C | Confounding | Mediation | Interaction | Bias |
| 67 | An investigator tries to trace people who lived near high tension electric wires twenty five years ago, in order to look for evidence of leukaemia in them. What is this design called? | D | Matched case control | Ecological | Cross sectional | Retrospective cohort |
| 68 | An odds ratio of 0.6 with 95% confidence interval of 0.58-0.62 suggests that the exposure is_____: | B | Not important | Protective against the disease | Causes the disease | Unstable |
| 69 | Stratified analysis helps in: | A | Adjusting for confounding | decreasing the variance | Avoiding bias | Improving clarity |
| 70 | What is the first stage of a systematic review? | D | Assess the relevance of each study to the research question(s) | Appraise the quality of studies from the previous step | Survey all of the literature contained within a single library | Define the purpose and scope of the review |
| 71 | How is a variable name different from a variable label in an SPSS data sheet? | A | It is shorter and less detailed | It is longer and more detailed | It is abstract and unspecific | It refers to codes rather than variable |
| 72 | What is the term used to describe the accumulation of dangerously high levels of toxins inside cells? | D | Biomagnification | Toxication | Persistent organic pollutant | Bioaccumulation |
| 73 | What percentage of total world production of carbon dioxide do the developed countries contribute? | C | Less than 1% | Almost 90% | About 75% | About 20% |
| 74 | Which of the following is not a major contributor to the greenhouse effect? | B | Carbon dioxide | Carbon monoxide | Chlorofluorocarbons | Methane gas |
| 75 | The A in RMNCH+A strategy stands for health care of | B | Anaemic mothers | Adolescents | AYUSH | AIDS |
| 76 | The main strategy for filariasis elimination in India is | A | Mass drug administration | Vaccination | Well chlorination | Hand hygiene |

| # | Question | Ans | A | B | C | D |
|---|----------|-----|---|---|---|---|
| 77 | This disease was declared as eliminated from India in 2005. But the elimination is being questioned now. The disease is – | C | Polio | Guineaworm | Leprosy | Small pox |
| 78 | As per the norms of the Government, there should be one Primary Health Centre for every _____ population. | B | 5000 | 30000 | 120000 | 500000 |
| 79 | The Kartar Singh committee report recommended the launch of | D | Malaria eradication programme | Urban health programme | Re-orientation of medical education | Multi-purpose worker scheme |
| 80 | The leading cause of maternal mortality in India from among the following is | C | Obstructed labour | Complications of abortions | Haemorrhage | Heart disease in pregnancy |
| 81 | Which among the following designs can be considered closest to the counterfactual ideal? | A | Cross-over trial design | Cross-sectional design | Case control design | Cohort design |
| 82 | An epidemiological design in which subjects are grouped based on the outcome is | A | Case control design | Cohort design | Randomized Controlled Trial | Ecological design |
| 83 | In a tribal area, for every _____ population, there should be one Primary health centre. | C | 1000 | 2000 | 3000 | 5000 |
| 84 | The Mid-Day-Meal scheme provides free lunches for children up to class | B | Five | Eight | Ten | Twelve |
| 85 | Which among the following sampling methods cannot be for a random sample? | A | Convenient sampling | Cluster Sampling | Stratified Sampling | Multi stage Sampling |
| 86 | What proportion of the global TB cases is contributed by India in 2018? | A | 27% | 9% | 6% | 3% |
| 87 | The latest coding systems for disease classification is | C | ICD 10 | ICD 12 | SNOMED-CT | LONIC |
| 88 | An epidemic will die out when the reproductive number is: | D | 1 | >1 | >1.1 | < 1 |
| 89 | Excessive use of phosphate and nitrate fertilizers leads to contamination of water an leads to | B | Increased algal growth | Eutrophication | Reduced algal growth | Increased salinity |
| 90 | Ozone depletion is caused by | B | Carbon dioxide. | Chlorofluorocarbons | Carbon monoxide | Methane |
| 91 | Above which of the following intensity does sound becomes a pollutant | B | 40 db | 80 db | 100 db | 200 db |
| 92 | The hallmark feature of an analytic epidemiologic study is: (Choose one best answer) | A | Use of an appropriate comparison group | Laboratory confirmation of the diagnosis | Publication in a peer-reviewed journal | Statistical analysis using logistic regression |
| 93 | In a randomised controlled trial, the following types of biases are reduced by randomisation: | D | Ascertainment bias | Recall bias | Publication bias | Selection bias |
| 94 | The method of triangulation in qualitative research consists of ………………... | B | Applying the same research method again to obtain clarification | Applying different research methods to examine the same phenomena | Applying the same research method amongst different groups to obtain clarification | Applying the same research method to examining different phenomena |
| 95 | Using one's own cultural values, beliefs and assumptions to study people of another culture is known as: | B | Cultural relativism | Ethnocentrism | Exocentrism | Autocentricism |
| 96 | Fill up the blank with the correct option: Susan Sontag described how certain diseases, whose atiology is not understood become …………………to represent what is wrong with the society | B | Illnesses | Metaphors | Diseases | Symptoms |
| 97 | What is the sex ratio in India as per the 2011 census? | D | 618 females per 1000 males | 775 females per 1000 males | 893 females per 1000 males | 940 females per 1000 males |
| 98 | Currently, the most common female cancer in India is | C | Cervix | Colorectal | Breast | Oral |
| 99 | Earth day is observed on: | C | 13-Sep | 04-Jun | 22-Apr | 17-Sep |
| 100 | Chemical, ionizing agent or virus that can cause birth defects | A | Teratogenic | Mutagenic | Carcinogenic | Embryogenic |