



श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, त्रिवेंद्रम , केरल- 695 011  
(एक राष्ट्रीय महत्व का संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)  
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Entrance Examination 2020- PhD Part Time

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 viewing 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 deliver a baby)	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 live 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
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	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
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 <u>cannot</u> 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	Autocentrism
96	Fill up the blank with the correct option: Susan Sontag described how certain diseases, whose aetiology 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

