



हेमचंद यादव विश्वविद्यालय, दुर्ग (छ.ग.)

(पूर्व नाम- दुर्ग विश्वविद्यालय, दुर्ग)

रायपुर निका दुर्ग (छ.ग.) 491001

ई मेल : registrara@durguniversity.ac.in

वेब साइट : www.durguniversity.ac.in

दूरभाष : 0788-2359100

// अधिसूचना //

क्रमांक 1327 / गोपनीय / 2021

दुर्ग, दिनांक 24/11/21

हेमचंद यादव विश्वविद्यालय, दुर्ग द्वारा पी.एच.डी. कोर्सवर्क परीक्षा 2021 का आयोजन किया गया। परीक्षा परिणामों के पुनरावलोकन हेतु विश्वविद्यालय की माननीय कुलपति महोदया द्वारा गठित विशेषज्ञ समिति की अनुशंसा के आधार पर पी-एच.डी. कोर्सवर्क विषय-Biotechnology में परीक्षा परिणाम अपरिवर्तित रहा।

संलग्न:- सूची

कुलसचिव
हेमचंद यादव विश्वविद्यालय, दुर्ग (छ.ग.)

पृ.क्र. 1328 / गोपनीय / 2021

दुर्ग, दिनांक 24/11/21

प्रतिलिपि:-

1. संबंधित समस्त शोध केन्द्र, हेमचंद यादव विश्वविद्यालय, दुर्ग को सूचनार्थ।
2. माननीय कुलपति के सचिव/कुलसचिव के निज सहायक, हेमचंद यादव विश्वविद्यालय, दुर्ग को सूचनार्थ।

उपकुलसचिव
हेमचंद यादव विश्वविद्यालय, दुर्ग (छ.ग.)

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Coursework Examination 2021

माननीय कुलपति महोदया द्वारा गठित विषय विशेषज्ञ समिति के द्वारा पुनरावलोकन उपरांत पी-एच.डी. कोर्सवर्क लिखित परीक्षा 2021 में शोधार्थियों के प्राप्तांक निम्नानुसार हैं:-

Result

Ph.D. in Biotechnology

Sr. No.	ROLL NO	NAME OF STUDENT	Written Exam (Marks)	RESULT	Remarks
1	2114001	AVINASH SINGH	68	QUALIFIED	
2	2114002	JAYA SHARMA	40	NOT QUALIFIED	
3	2114003	M.SMRITHI	60	QUALIFIED	
4	2114004	SWETA DAVE	50	NOT QUALIFIED	
5	2114005	NIKITA MISHRA	60	QUALIFIED	



Registrar

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Coursework Examination - 2021

Answer Key

Subject :- Biotechnology

Q.N.	Ans.	Q.N.	Ans.	Q.N.	Ans.	Q.N.	Ans.	Q.N.	Ans.
1	D	11	A	21	D	31	C	41	A
2	B	12	D	22	A	32	C	42	B
3	D	13	A	23	C	33	D	43	D
4	C	14	विलोपित	24	B	34	C	44	A
5	A	15	C	25	C	35	C	45	C
6	B	16	B	26	B	36	C	46	A
7	C	17	C	27	C	37	D	47	C
8	A	18	A	28	A	38	A	48	B
9	C	19	C	29	D	39	A	49	B
10	C	20	D	30	C	40	B	50	A

प्रश्न क्र. 14 विलोपित, बोनस अंक प्रदत्त।



HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Course Work Examination 2021

BIOTECHNOLOGY

PAPER FIRST (PART-I)

Research Methodology Advanced Tools & Techniques, Quantitative Data
Analysis and Computer Fundamentals

&

PAPER FIRST (PART-II)

RESEARCH & PUBLICATION ETHICS (RPE)

Time : Two Hours (For Part-I & Part-II)

Maximum Marks : (Part-I=70 + Part-II=30) = 100

All questions are compulsory. Each question carries 02 marks.

(Part-I)

1. What is the name of the conceptual framework in which the research is carried out?
 - a. Research hypothesis
 - b. Synopsis of Research
 - c. Research paradigm
 - d. Research design

2. Which of the following is a popular programming language for developing multimedia webpages.
 - a. COBOL
 - b. Java
 - c. BASIC
 - d. Assembler

3. The term _____ designates equipment that might be added to a computer system to enhance its functionality
 - a. Digital device
 - b. System add-on
 - c. Disk pack
 - d. Peripheral device

4. For measuring using calorimetric biosensors, the sensitivity of the glucose analysis using glucose oxidase may be doubled by the co-immobilization of _____
- Penicillinase
 - Uricase
 - Catalase
 - Urease
5. Ctrl, Shift and Alt are called keys.
- Modifier
 - Function
 - Alphanumeric
 - Adjustment
6. Preliminary data collection is a part of the _____
- Descriptive research
 - Exploratory research
 - Applied research
 - Explanatory research
7. Which of the following features are considered as critical in qualitative research?
- Collecting data with the help of standardized research tools.
 - Design sampling with probability sample techniques.
 - Collecting data with bottom-up empirical evidence.
 - Gathering data with top-down schematic evidence.
8. Mean weight of 100 children was 12 kgs. The standard deviation was 3. Calculate the percent coefficient of variance
- 25%
 - 35%
 - 45%
 - 55%
9. Beer Lambert's law gives the relation between which of the following?
- Reflected radiation and concentration
 - Scattered radiation and concentration
 - Energy absorption and concentration
 - Energy absorption and reflected radiation

10. Percentage frequency distribution is represented by
- Frequency polygon
 - Ogive representation
 - Pie diagram
 - Frequency table
11. Ranking students from the individual with highest CGPA to the lowest CGPA is an example of
- Ordinal data
 - Nominal data
 - Ratio data
 - Interval data
12. The mean B.P. of a group of persons was determined and after an interventional trial, the mean BP was estimated again. The best test to be applied to determine the significance is
- Chi-square
 - Paired 't' test
 - Correlation coefficient
 - t-test
13. A regression line is a straight line which
- Is located as close as possible to all the points of a scatter chart
 - Is defined by an equation having 2 parameters: the slope and the intercept
 - Provides an approximate relationship between the values of two parameters
 - Is parallel to one of the coordinate axes
14. Which of the following tests are parametric test?
- ANOVA
 - Student
 - Wilcoxon
 - Kruskal-Wallis
15. SPSS stands for
- Simple perfect squared square
 - Statistical product and service solutions
 - Statistical package for social science
 - Software package for statistical science

16. For a typical adsorbent such as silica gel, the most popular pore diameters are
- 10 and 50 Å
 - 60 and 100 Å
 - 100 and 150 Å
 - 150 and 200 Å
17. Thin layer chromatography is
- Partition chromatography
 - Electrical mobility of ionic species
 - Adsorption chromatography
 - One of the above
18. If a biochemical test gives the same reading for a sample on repeated testing, it is inferred that the measurement is
- Precise
 - Accurate
 - Specific
 - Sensitive
19. A normal distribution curve depends on
- Mean and sample size
 - Range and sample size
 - Mean and standard deviation
 - Mean and median
20. When the physical change produced in a biosensor is due to the movement of electrons produced in a redox reaction, the biosensor is referred to as _____
- Calorimetric biosensor
 - Potentiometric biosensor
 - Piezo-electric biosensor
 - Amperometric biosensor
21. Silver halides are used in photo-graphic plates because they are:
- Oxidised in air
 - Colourless
 - Easily soluble in hypo solution
 - Readily reduced by light

22. A randomized trial comparing the efficacy of two drugs showed a difference between the two with a p value of <0.005 . In reality, however the two drugs do not differ. This therefore is an example of
- Type I error (alpha error)
 - Type II error (beta error)
 - $1 - \alpha$ (alpha)
 - $1 - \beta$
23. Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?
- Eyepiece lens
 - Objective lens
 - Condenser lens
 - Magnifying lens
24. While applying chi-square test to a contingency table of 4 rows and 4 columns, the degrees of freedom would be:
- 1
 - 9
 - 8
 - 12
25. Oil immersion objective lens has an NA value of _____
- 0.65
 - 0.85
 - 1.33
 - 1.00
26. Sequence similarity can be quantified using _____ homology is a _____ statement.
- Percentages, quantitative
 - Percentages, qualitative
 - Ratios, qualitative
 - Ratios, quantitative
27. The information retrieval tool of NCBI GenBank is
- Text search
 - SeqIn
 - Entrez
 - STAG

28. Which of the following steps in research are least vulnerable to research ethics?
- A. Identifying the research variables
 - B. Defining the research variables
 - C. Data collection procedure
 - D. Data analysis procedure
 - E. Reporting research outcomes
- Choose the correct answer from the options given below:
- a. A and B only
 - b. B and C only
 - c. C and D only
 - d. D and E only
29. What would the expected effect be on a PCR reaction if the primers used were slightly shorter and more variable than the intended oligonucleotide sequences?
- a. The PCR reaction would not commence
 - b. The PCR reaction would end after one cycle
 - c. The reaction would generate a single short PCR product
 - d. The reaction would yield a mixture of non-specific products
30. Radioactive iodine can be introduced in
- a. Serine
 - b. Threonine
 - c. Tyrosine
 - d. Leucine
31. The first secondary database developed was
- a. PRINT
 - b. BLAST
 - c. PROSITE
 - d. PIR
32. When the two sequences have substantial regions of similarity, many dots line up to form contiguous _____ lines.
- a. Crossings on
 - b. Horizontal
 - c. Diagonal
 - d. Vertical

33. Which of the following factors does not influence electrophoretic mobility?
- a. Molecular weight
 - b. Shape of molecule
 - c. Size of molecule
 - d. Stereochemistry of molecule
34. The subunit molecular weight as well as the number of subunits in the quaternary structure can be determined by
- a. SDS-PAGE electrophoresis
 - b. Gel filtration chromatography
 - c. Combining information from (1) and (2)
 - d. Isoelectric focusing
35. Which of the following reagents would be most useful in determining the N-terminal amino acid of polypeptide?
- a. Trypsin
 - b. Cyanogen bromide
 - c. Phenylisothiocyanate
 - d. 1mol/ L HCl

Part-II

36. What is an ethics committee?
- a. People who like to talk a lot
 - b. A group of people who think about hypothetical research
 - c. A group of experienced people who will consider a research proposal and the degree to which ethical issues have been considered appropriately
 - d. A group of experienced people who are useful to draw on when writing a proposal as an optional extra
37. Essential in ethics and ethical standards is:
- a. A good grasp of research methods.
 - b. The capacity to produce good research.
 - c. A good understanding of business.
 - d. The capacity to distinguish between right and wrong.
38. A gatekeeper is:
- a. Any person or structure that controls access to people, places, structures and/or organizations.
 - b. A person in charge of a gate.
 - c. A security officer or guard.
 - d. A person who controls entrances and exits.

39. The two important components of research responsibility are: sincerity in work and avoiding-
- Plagiarism
 - writing the thesis
 - Research techniques
 - Confidentiality
40. In carrying out the research, the researcher should engage properly and thoroughly with:
- The media.
 - The literature on the topic.
 - Their peers.
 - Art and science.
41. Ideally, the research participant's identity is not known to the researcher. This is called:
- Anonymity
 - Confidentiality
 - Deception
 - Desensitizing
42. The use of deception in social research is
- illegal.
 - permissible under certain conditions.
 - methodologically unsound.
 - rare because of federal ethical constraints on its use.
43. Which of the following is a form of harm that might be suffered by research participants?
- Physical injury
 - Stress and anxiety
 - Impaired development
 - All of the above
44. What do we advise as a good rule of thumb about sample size for group based quantitative projects?
- Aim to recruit 20 participants per condition of your design
 - Aim to recruit 20 participants per member of the group
 - Aim to recruit 100 participants per condition of your design
 - Aim to recruit 100 participants per member of the group
45. Classification of all types of libraries has been made by-
- IFLA
 - UNISIST
 - UNESCO
 - INSDOC

46. Which of the following is/are the potential benefits of using tools for testing?
- i) Reducing the repetitive work.
 - ii) Increasing consistency and repeatability.
 - iii) Over-reliance on the tool.
- a. i and ii only
 - b. ii and iii only
 - c. i and iii only
 - d. All i, ii and iii
47. urkund is a :-
- a. writing tool
 - b. grammar correction tool
 - c. plagiarism checker
 - d. none
48. A hash function must meet criteria.
- a. Two
 - b. Three
 - c. Four
 - d. none of the mentioned
49. How many types of indexes are there in sql server?
- a. 1
 - b. 2
 - c. 3
 - d. 4
50. h- index ----- Measures quantity with quality by comparing publications to citations.
- a. True
 - b. False
 - c. Both
 - d. None
-