// अधिसूचना //

क्रमांक १३२१ / गोपनीय / 2021   दुर्ग, दिनांक 25/11/2021

हेमचंद यादव विश्वविद्यालय, दुर्ग द्वारा पी.एचडी. 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— Chemistry में निम्नलिखित 01 शोधार्थी का परीक्षा परिणाम संशोधित करते हुए उन्हें अपात्र से पात्र घोषित किया जाता है:—

शोधार्थियों के विवरण इस प्रकार है:—

Sr. No.	Roll No.	Name of Student	Marks	Corrected Rersult	Remarks
01	2108002	ALKA RAI	56	QUALIFIED	

संलग्न—उपरोक्तानुसार।

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

पृ.क्र.१३३० / गोपनीय / 2021   दुर्ग, दिनांक 25/11/2021

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 Chemistry

Sr. No.	ROLL NO	NAME OF STUDENT	Written Exam (Marks)	RESULT	Remarks
1	2108001	AKANKSHA	56	QUALIFIED	
2	2108002	ALKA RAI	56	QUALIFIED	
3	2108003	AMIT KUMAR PATIL	52	NOT QUALIFIED	
4	2108004	BARSA SAHU ·	60	QUALIFIED	
5	2108005	KIRAN VERMA	60	QUALIFIED	
6	2108006	NARENDRA KUMAR	48	NOT QUALIFIED	
7	2108007	NIDHI GARHEWAL	52	NOT QUALIFIED	
8	2108008	SHRADDHA AGRAWAL	56	QUALIFIED	
9	2108009	SWATI BANCHHOR	58	QUALIFIED	
10	2108010	THANESHWAR SAHU	62	QUALIFIED	
11	2108011	PURNIMA MISHRA	60	QUALIFIED	
12	2108012	SANVEDANA SHUKLA	60	QUALIFIED	

Registrar

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Coursework Examination - 2021

Answer Key

Subject :- Chemistry

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

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Course Work Examination 2021
CHEMISTRY
PAPER FIRST (PART-I)
Research Methodology in Chemistry
&
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)

Unit-I

[Research Methodology in Chemistry]

1. The research that is especially carried out to test and validate the study of hypothesis is termed as :
    (a) Fundamental Research
    (b) Applied Research
    (c) Conclusive Research
    (d) Exploratory Research

2. Research always requires methods of enquiry :

    (a) Structured
    (b) Sequential
    (c) Both (a) and (b)
    (d) Neither (a) nor (b)

3. A formal document that presents the research objectives design of achieving these objectives and the expected outcomes/deliverables of the study is called:
    (a) Research Design
    (b) Research Proposal
    (c) Research hypothesis
    (d) Research Report

4. Which of these is not a step in problem identification process?

    (a) Discussion with subject expert
    (b) Review of existing literature
    (c) Theoretical foundation and model building
    (d) Management decision making

5. Which statements are incorrect:

(i) simple research problem usually test linear relationship
(ii) The research study must follow a replicable plan of investigation
(iii) The independent variable is also called the effect
(iv) The hypothesis must be measurable and quantifiable

(a) (i) and (iv)
(b) (ii) and (iii)
(c) (iii) and (iv)
(d) (i) and (ii)

6. The formulated design must ensure :

(a) Converting the research question and hypothesis into measurable variable
(b) Specifying the process to complete the above task
(c) Specifying the control mechanism(s)
(d) All of the above

7. Match List-I with List-II and select the correct answer using following codes

List- I	**List-II**
(i) The execution details of the research Question to be investigated are referred as	(1) Identification of problem
(ii) The complex problem look interrelationship Between variable	(2) Secondary data
(iii) The casual variable is also called….	(3) Independent variable
(iv) The data which is not always specific	(4) Multiple
(v) The first step in starting research is :	(5) Research Design

	(i)	(ii)	(iii)	(iv)	(v)
(a)	5 -	4 -	3 -	2 -	1
(b)	1 -	2 -	3 -	4 -	5
(c)	3 -	4 -	5 -	2 -	1
(d)	2 -	1 -	4 -	5 -	3

Unit-II
[Literature Search Technique]

8. Which statement is incorrect :

(a) The input factor is measure of the frequency which the average articles in a journal has been cited in particular year
(b) Impact factor is a measure of the rank of a journal
(c) Impact factor less than "1" is considered to be excellent
(d) Scopus always provides impacts factor.

9. An h-index of 20 is :

(a) Average
(b) Good
(c) Outstanding
(d) Exceptional

10. M-index or M-value is :

(a) $\dfrac{h-index}{no.\ of\ years\ since\ first\ publication}$

(b) $h-index \ X \ no.of\ years\ since\ first\ publication$

(c) $\dfrac{no.\ of\ years\ since\ first\ publication}{impact\ factor}$

(d) $impact\ factor \ X \ no.of\ years\ since\ first\ publication$

11. Which one is the key to finding articles on a particular topic:

(a) Subject index
(b) Author index
(c) Keyword index
(d) Periodical index

12. If the index summarizes the content of an article, it is called :

(a) Subject index
(b) Research paper
(c) Abstracts
(d) Result and Discussion

13. Best practices for avoiding plagiarism :

(a) Commit to doing our own work
(b) Cite our source scrupulously
(c) Understanding good paraphrasing
(d) All of the above

14. Among the following which is a moderate plagiarism :

    (a)   Verbatim plagiarism
    (b)   Mosaic plagiarism
    (c)   Self plagiarism
    (d)   Global plagiarism

Unit-III
[Instrumental Techniques]

15. Among the following which statements are incorrect-

  (i) Materials exhibiting fluorescence generally reemit excess of radiations within 10^{-6} to 10^{-4} second of absorption.

  (ii) Molecules show Luminescence which are able to absorb ultraviolet and visible radiation

  (iii) The pH exhibits no effects on the fluorescence of the compounds.

  (iv) Electron withdrawing groups i.e. –COOH, -NO_2, -N=N- increase fluorescence

    (a)   (i) and (ii)
    (b)   (i) and (iii)
    (c)   (ii) and (iv)
    (d)   (iii) and (iv)

16. The correct decreasing order of parent peak is:

(I) Aromatics (II) Conjugated olefins (III) Alicyclics (IV) Unbranched hydrocarbons

(V) Branched hydrocarbons

    (a)   V > IV > III > II > I

    (b)   III > I > V > II > IV

    (c)   I > II > III > IV > V

    (d)   II > IV > V > I > III

17. Which of the following statement is correct with reference to paper chromatography-
    (a)   It is based on the principle of partition law
    (b)   It is a sheet method
    (c)   Sheet or paper acts as adsorbent
    (d)   All are correct

18. Which is not an advantage of Atomic Absorption Spectroscopy (AAS)-

    (a)   It is less sensitive than flame emission spectroscopy (FES)
    (b)   Atomic Absorption Spectroscopy is independent of flame temperature
    (c)   Atomic Absorption Spectroscopy is specific in nature means a particular element can absorb radiation of particular characteristic wave length.
    (d)   Atomic absorption spectroscopy can be used to estimate most of the elements.

19. TMS (Tetramethylsilane) is used as the normal reference compound because:
   (a) The protons of TMS are all equivalent
   (b) It is chemically inert
   (c) It exhibits a single resonance line at a high applied field
   (d) All of the above

20. The wavelength of maximum intensity of X- ray tube of 62 kv is :

   (a) 1.5 A°
   (b) 0.3 A°
   (c) 0.2 A°
   (d) 1.0 A°

21. The region of the flame in which the maximum emission or absorption occurs depends upon -
   (a) Droplet size
   (b) Type of flame used
   (c) Tendency for the species to enter into oxide formation
   (d) All of the above

Unit-IV
[Sampling and Modeling]

22. Air quality index is referred as :

   (a) It tells about the sound pollution in air
   (b) Measure air pollution mainly sulphur quantity
   (c) It measure air Ozone layer in area
   (d) It checks the color of the sky

23. The threshold concentration of sulphur dioxide (SO_2) in any industrial activity should not permitted beyond:
   (a) 2 ppm
   (b) 3 ppm
   (c) 6 ppm
   (d) 5 ppm

24. Which is the residence time (average time of a particle is active in a system) of carbon monoxide :
   (a) 11-15 year
   (b) 0.1 to 0.3 year
   (c) 0.5 to 0.7 year
   (d) few minutes only

25. Which of the following equipment is used for determining the concentration of dust accurately:
(a)   Screeners
(b)   Air dryers
(c)   Jas Filters
(d)   Gravimetric Samplers

26. Which of the following type of sand can be used as substitute for minimizing the dust particles in foundry:
(a)   Core sand
(b)   Silica sand
(c)   Olivine Sand
(d)   Quartz Sand

27. Among the following statements, which statements are correct :
(i)   PAN accelerate Hill reaction of photosynthesis
(ii)   Exposure of 4 ppb of PAN for 4 hours is known to create vegetation damage of plants.
(iii)   Metrological variable do not affect formation of photochemical smog
(iv)   Exposure to 50 ppm of O_3 for several hours will lead to accumulation of blood in lungs.
(a)   (i) and (iii)
(b)   (ii) and (iv)
(c)   (iii) and (iv)
(d)   (i) and (iv)

28. Which is not a secondary air pollutant:

(a)   Peroxy Acetyl Nitrate (PAN)
(b)   Smog
(c)   Ozone
(d)   Hydrocarbons (CxHy)

Unit-V
[Statistical Analysis]
29. Which statements are correct:
(i)   Accuracy is the degree of agreement between measured value and accepted true value.
(ii)   Good precision always assures good accuracy
(iii)   Higher the degree of precision the kisser will be the chance of obtaining true value.
(iv)   Precision is the repeatability of result
(a)   (i) and (ii)
(b)   (ii) and (iii)
(c)   (i) and (iv)
(d)   (iii) and (iv)

30. Among the following which one is indeterminate errors:

(a) Instrumental errors
(b) Random errors
(c) Personal errors
(d) Absolute errors

31. Consider following set of analytical results :

$$15.67g, 15.69g, 16.03g$$

Mean deviation and standard deviation are ;
(a) 16.03, 0.47
(b) 47.39, 0.20
(c) 15.80, 0.20
(d) 15.70, 0.51

32. Mean deviation which is calculated minimum at:

(a) Mean
(b) Median
(c) Mode
(d) All of the above

33. In statistical terms which is the totally of things under consideration:

(a) Variable
(b) Measure
(c) Population
(d) Collection

34. The determinate errors can be minimized by:

(a) Running a blank determination
(b) Calibration of apparatus
(c) Running a controlled determination
(d) All of the above

35. The result of an analysis are found to be 36.89% compared with the true value 36.98%. the relative error in parts per thousand (ppt) is -
(a) -2.5 ppt
(b) +2.5 ppt
(c) -2.7 ppt
(d) +2.7 ppt

(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-
(a) Plagiarism
(b) writing the thesis
(c) Research techniques
(d) Confidentiality

40. In carrying out the research, the researcher should engage properly and thoroughly with:
(a) The media.
(b) The literature on the topic.
(c) Their peers.
(d) Art and science.

41. Ideally, the research participant's identity is not known to the researcher. This is called:
(a) Anonymity
(b) Confidentiality
(c) Deception
(d) Desensitizing

42. The use of deception in social research is-
(a) illegal.
(b) permissible under certain conditions.
(c) methodologically unsound.
(d) rare because of federal ethical constraints on it use.

43. Which of the following is a form of harm that might be suffered by research participants?
(a) Physical injury
(b) Stress and anxiety
(c) Impaired development
(d) All of the above

44. What do we advise as a good rule of thumb about sample size for group based quantitative projects?
(a) Aim to recruit 20 participants per condition of your design
(b) Aim to recruit 20 participants per member of the group
(c) Aim to recruit 100 participants per condition of your design
(d) Aim to recruit 100 participants per member of the group

45. Classification of all types of libraries has been made by-
(a) IFLA
(b) UNISIST
(c) UNESCO
(d) 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