// अधिसूचना //

क्रमांक 1329 / 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– Physics में निम्नलिखित 04 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	2107002	ASHUTOSH PATEL	56	QUALIFIED	
02	2107004	GITENDRA KUMAR SAHU	56	QUALIFIED	
03	2107009	SANDHYA SINGH	56	QUALIFIED	
04	2107012	SHRUTI UPADHYAY	56	QUALIFIED	

संलग्नः–उपरोक्तानुसार।

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

पृ.क्र. 1330 / गोपनीय / 2021   दुर्ग, दिनांक 25/11/2021

प्रतिलिपिः–

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 Physics

Sr. No.	ROLL NO	NAME OF STUDENT	Written Exam (Marks)	RESULT	Remarks
1	2107001	AMIT KUMAR	48	NOT QUALIFIED	
2	2107002	ASHUTOSH PATEL	56	QUALIFIED	
3	2107003	DIVYA	68	QUALIFIED	
4	2107004	GITENDRA KUMAR SAHU	56	QUALIFIED	
5	2107005	HEERA RAM	48	NOT QUALIFIED	
6	2107006	MANISH KUMAR DONGRE	66	QUALIFIED	
7	2107007	PAWAN KUMAR	68	QUALIFIED	
8	2107008	PRATIKSHA TIWARI	52	NOT QUALIFIED	
9	2107009	SANDHYA SINGH	56	QUALIFIED	
10	2107010	SAPANA SONI	56	QUALIFIED	
11	2107011	SHASHI SAHU	46	NOT QUALIFIED	
12	2107012	SHRUTI UPADHYAY	56	QUALIFIED	
13	2107013	SOMLATA	58	QUALIFIED	
14	2107014	USHA YADAV	42	NOT QUALIFIED	

Registrar

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Coursework Examination - 2021

Answer Key

Subject :- Physics

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

प्रश्न क्र. 04 एवं 31 विलोपित, बोनस अंक प्रदत्त।

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Ph.D. Course Work Examination 2021
PHYSICS
PAPER - FIRST (PART-I)
Research Methodology, Quantitative Methods and Computer Application
&
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
Note :- All questions are compulsory. Each question carries 02 marks.

(Part-I)

Q.1.   In FTIR, the resultant graph of the intensity of light is a function of

(a)   Wavelength
(b)   Position
(c)   Wave number
(d)   none of this

Q.2.   In SEM, Secondary and Auger electrons can only be observed when they come from-

(a)   near surface region
(b)   from nucleus
(c)   (a) and (b)
(d)   none of this

Q.3.   For SEM Analysis, which type of sample must be coated with electron rich conducting material to avoid development of negative charge-

(a)   Conductor
(b)   Semi-conductor
(c)   Insulator
(d)   All

Q.4.   The radius of curvature of the tip used in AFM has the order of

(a)   100 Å
(b)   10 Å
(c)   50 Å
(d)   1000 Å

Q.5. In the powder diffraction if peaks widths are broadened this indicates-

(a) increase in crystalline size
(b) decrease in crystalline size
(c) materials is amorphous
(d) both (a) and (b)

Q.6. In goniometer, if analysing crystal rotates at angle of 30^0, the detector should rotate at angle of

(a) 15^0
(b) 30^0
(c) 45^0
(d) 60^0

Q.7. Which of the following component of TEM focuses the beam of electrons on the sample?
(a) oscular lens
(b) condenser lens
(c) stage
(d) column

Q.8. What is phosphorescence.

(a) Emission of exited electrons that keep the original spin
(b) A photoluminescence where the light lasts a long time
(c) Any excited electrons that are emitted from molecule
(d) Absorption of excited electrons that keep the original spin.

Q.9 During Exothermic process, sample is at higher temperature than reference. Therefore a ………………is observed in DTA curve.

(a) flat line/linear
(b) minimum
(c) maximum
(d) all of above

Q.10 In TGA, Graph declines indicates-

(a) Temperature loss
(b) weight loss
(c) (a) and (b)
(d) energy loss

Q.11 Contribution of ion conduction is identified by:

(a) AC polarization technique
(b) DC polarization technique
(c) Combine AC/DC technique
(d) (b) and (c)

Q.12 A single maximum in the TL glow curve predicts-

(a) trapping levels located at a fixed energy E below and above of the c band and V- band respectively.
(b) Traps are distributed in separates groups at different depths
(c) (a) and (b)
(d) none of these

Q.13 Which is not a type of DML?
(a) FML (fracto Ml)
(b) Plastico ML
(c) Elastico ML
(d) Tribo ML

Q.14 To evaluate t_{ion}, which of the following method is used?
(a) AC impedance spectroscopy technique
(b) Combined AC/DC technique
(c) DC polarization technique
(d) None of the above

Q.15 The correct formula to calculate the apparent magnitude of two celestial objects/stars.

(a) $m_1 - m_2 = + 2.5 \, log_{10}(\frac{I_1}{I_2})$

(b) $m_2 - m_1 = + 2.5 \, log_{10}(\frac{I_1}{I_2})$

(c) $m_1 - m_2 = - 2.5 \, log_{10}(\frac{I_1}{I_2})$

(d) $m_1 + m_2 = - 2.5 \, log_{10}(\frac{I_1}{I_2})$

Q.16 Which apparent magnitudes denotes the very bright object-
(a) -26.73
(b) -1.4
(c) +26.73
(d) +1.4

Q.17 Air mass will be minimum at-

(a) $Sec \, 90^0$
(b) $Sec \, 60^0$
(c) $Sec \, 45^0$
(d) $Sec \, 0^0$

Q.18 In digital photography, if we take a very short exposure with the shutter closed is knows as

(a) flat frame
(b) bias frame
(c) dark current
(d) (a) and (b)

Q.19   The dispersive power of the prism depends on-

(a)   Height of the prism
(b)   The shape of the prism
(c)   The materials of the prism
(d)   The angle of the prism

Q.20   The collimator is used for-
(a)   To reform the image of the entrance slit
(b)   To get narrow source
(c)   To fall on sample cell
(d)   To disperse radiation

Q.21   Flat field sky images are obtained at:

(a)   Dusk or dawn
(b)   Fore noon day time
(c)   Night time
(d)   After noon day time

Q.22   What is the role of slit in uv visible spectroscopy

(a)   Polychromatic radiation to monochromatic radiation.
(b)   Monochromatic radiation to polychromatic radiation.
(c)   Option (a) and (b)
(d)   none of the above

Q.23   Maximum value an integer variable can have:

(a)   -32767
(b)   1.7044 e +38
(c)   32767
(d)   -1.7044 e - 38

Q.24   C program are converted into machine language with the help of:

(a)   An Editor
(b)   A Compiler
(c)   An Operating System
(d)   None of a, b, c

Q.25   How many bytes occupied in RAM by float data type-

(a)   1 byte (8 bit)
(b)   2 byte (16 bit)
(c)   4 byte (32 bit)
(d)   8 byte (64 bit)

Q.26   Which is not a type of instruction in C?

(a)   Type declaration instruction
(b)   Control instruction
(c)   Arithmetic instruction
(d)   Logical instruction

Q.27   Which keywords can be used as identifier?

(a)   auto
(b)   break
(c)   else
(d)   char

Q.28   Which is not a storage class in C

(a)   Auto
(b)   Struct
(c)   Register
(d)   Static

Q.29   The range of real constant in Exponential form.

(a)   - 1.70 e +38 to 1.7e + 38
(b)   -3.4e38 to 3.4e38
(c)   -32767 to 32767
(d)   -124 to +123

Q.30   Which is a type of c-pre-processor directives

(a)   Macro expansion
(b)   Conditional compilation
(c)   both (a) and (b)
(d)   none of these

Q.31.   A printer is-

(a)   A variable that stores address of an instruction
(b)   A variable that stores address of other variable
(c)   A keyword used to create variables
(d)   None of above

Q.32.   The reason for using pointer in a C program is-

(a)   pointer allow different function to share and modify their local variables
(b)   to pass value structures so that complete copy of the structure can be avoided
(c)   pointers enable complex data structures like links lists and binary tress
(d)   All of the above

Q.33. How many storage class in C

    (a)   2
    (b)   4
    (c)   3
    (d)   5

Q.34. How do you initialize an array in C?

    (a)   int arr[3] = (1,2,3);
    (b)   int arr(3) = {1,2,3};
    (c)   int arr[3] = {1,2,3};
    (d)   int arr(3)= {1,2,3};

Q.35. Which of the following concepts make extensive use of arrays?

    (a)   binary trees
    (b)   scheduling of process
    (c)   caching
    (d)   spatial locality.

(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