

INSTRUCTIONS AND GUIDELINES TO THE EXAMINERS

1. This is a confidential document to be used only for the purpose of marking the Question paper-cum-Answer Booklet at the Evaluation Centre. This document should neither be taken out of the Evaluation Centre nor shared /published on any form of social media.
2. Marking of answer scripts is a job of immense responsibility. You are, therefore, required to go through the instructions and guidelines given here very carefully before the commencement of the marking of Question paper-cum- Answer Booklet.
3. **The rubric given in the Answer Key has to be followed for evaluating the Question Paper-cum-Answer Booklet for every subject/paper.**
4. **The rubrics for subjects like Indian Languages (except Mizo and Lepcha), Elective English, Accounts, Mathematics, and Indian Music Hindustani must be followed carefully. If a candidate attempts all the questions on all texts/ sections, then the texts/ sections in which the candidate has scored the best should be accepted.**
5. **Marking should be done distinctly in red ink in the examiner's own handwriting.**
6. You are required to mark all the questions attempted by the candidates. It is advised that the marks obtained by the candidates on each page should be written and circled at the bottom of every page.
7. In case, a candidate has written more than one answer to a question and struck them off, the examiner should mark the answer that the candidate has **NOT** been struck off.

An example of the same is given below.

Answer: ~~(e)~~-(d) (a)

8. In case, a candidate has written multiple answers to a question and not struck off any of them, the examiner should **NOT** accept any of the answers and award zero for the same.

An example of the same is given below.

Answer: (c) (d) (a)

9. The total marks obtained by a candidate must be calculated by adding the marks awarded for all the required parts and sub-parts.
10. It must be ensured that every question and sub-part of the question have been evaluated and marks awarded.
11. If a mark needs to be corrected, care must be taken that the new figure is written clearly. No overwriting should be done.
12. The examiner should write the marks obtained by the candidates on the cover page of the Question Paper-cum-Answer Booklet in a clear and neat way in his/her own handwriting.
13. Please note that no error should be made while calculating the total marks obtained by the candidates. Examiners are responsible for the accuracy of their evaluation and award of marks.
14. The total marks obtained by the candidate should be written and encircled on the top sheet. The same should be written in words also.

Example:

48

forty eight

15. You are required to sign and put the date below the total marks circled on the top sheet.

SEMESTER 1 EXAMINATION
PHYSICS PAPER – 1 (861A)
(THEORY)

Maximum Marks: 70

ALL QUESTIONS ARE COMPULSORY.

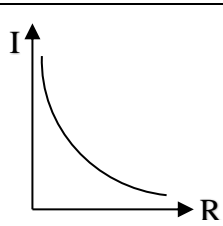
Every question / subpart of a question carries one mark.

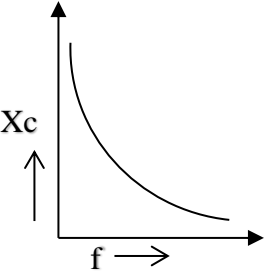
A simple scientific calculator may be used for doing calculations.

List of useful constants is given at the end of the paper.

ANSWER KEY

Question 1		
(a)	F	
Question 2		
(c)	They intersect each other.	
Question 3		
(c)	inversely proportional to square of the distance.	
Question 4		
(d)	Remain (ϕ)	
Question 5		
(d)	4Nm	
Question 6		
(c)	-Q/2	
Question 7		
(b)	Electric potential is zero.	
Question 8		
(b)	1 : 100	
Question 9		
(b)	potential difference between the two plates.	
Question 10		
(d)	$1 \times 10^6 \text{ NC}^{-1}$	
Question 11		
(a)	16 R	

Question 12		
(d)	Temperature of the wire	
Question 13		
(c)	2 : 1	
Question 14		
(a)	$5 \times 10^{-7} \Omega \text{m}$	
Question 15		
(c)	$\Omega^{-1} \text{m}^{-1}$	
Question 16		
(d)		
Question 17		
(b)	2.25V	
Question 18		
(c)	$MNe/(MR+Nr)$	
Question 19		
(b)	charge	
Question 20		
(a)	Resistance of a wire	
Question 21		
(b)	30.0 cm	
Question 22		
(d)	2.50 Vm^{-1}	
Question 23		
(a)	0	
Question 24		
(c)	0.50A	
Question 25		
(b)	Am^2 .	

Question 26		
(a)	1.6×10^{-6} T directed into the paper.	
Question 27		
(d)	Zero	
Question 28		
(c)	$\mu NI/l$	
Question 29		
(b)	move towards the wire P.	
Question 30		
(d)	Voltage applied to the coil P or Q	
Question 31		
(c)	Current in the circuit is minimum	
Question 32		
(c)		
Question 33		
(a)	Zero	
Question 34		
(c)	1000W	
Question 35		
(c)	gamma rays	
Question 36		
(b)	ultraviolet radiations	
Question 37		
(d)	Thermopile	
Question 38		
(b)	X rays	

Question 39			
(i)			
	(a)	The electric field is along x-axis.	
(ii)			
	(b)	$2qlE$	
Question 40			
(i)			
	(d)	5.0J	
(ii)			
	(c)	50 μ F	
Question 41			
(i)			
	(a)	The average velocity of free electrons with which they move towards the positive terminal.	
(ii)			
	(b)	the average time interval between two successive collisions of a free electron with metallic ions in a conductor.	
Question 42			
(i)			
	(c)	shows a momentary deflection and comes back to zero.	
(ii)			
	(d)	shows a momentary and a greater deflection and comes back to zero.	
Question 43			
(i)			
	(d)	R_2 is connected in parallel with G.	
(ii)			
	(a)	R_1 is connected in series with G.	
Question 44			
(i)			
	(c)	200V	
(ii)			
	(b)	More than that in part (A).	

Question 45		
(i)		
	(c)	K ₁ is closed first.
(ii)		
	(a)	$r = R \left(\frac{l_1}{l_2} - 1 \right)$
(iii)		
	(b)	Balancing length l_2 increases.
Question 46		
(i)		
	(d)	Zero
(ii)		
	(b)	180°
(iii)		
	(a)	X _L = X _C
Question 47		
(i)		
	(a)	7.5 x 10 ⁻⁴ T
(ii)		
	(d)	1 x 10 ⁻³ T
(iii)		
	(b)	2.5 x10 ⁻⁴ T
Question 48		
(i)		
	(b)	Mutual induction
(ii)		
	(d)	Output power is always less than input power.
(iii)		
	(a)	Output voltage is greater than input voltage.
Question 49		
(i)		
	(a)	1000Ω

(ii)		
	(c)	200Ω
(iii)		
	(b)	1000Ω
(iv)		
	(a)	53°, with current leading over supply voltage.
Question 50		
(i)		
	(b)	ac voltage and dc voltage respectively
(ii)		
	(a)	50Hz
(iii)		
	(b)	ac voltage can be stepped up or down.
(iv)		
	(c)	G ₁ represents ac voltage.