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Serial No. of  
Q. C. A. B.

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 36 + 19 = 55 ]

[ ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 32

Total No. of Questions : 36 + 19 = 55 ]

[ Total No. of Printed Pages : 32

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E**

**ವಿಷಯ : ವಿಜ್ಞಾನ**

Code No. : **83-E**

**Subject : SCIENCE**

( ಭೌತಶಾಸ್ತ್ರ, ರಸಾಯನಶಾಸ್ತ್ರ ಮತ್ತು ಜೀವಶಾಸ್ತ್ರ / **Physics, Chemistry & Biology** )

( ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version )

ದಿನಾಂಕ : 11. 04. 2011 ]

[ Date : 11. 04. 2011

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 10-30 ರಿಂದ ಮಧ್ಯಾಹ್ನ 1-45 ರವರೆಗೆ ]

[ Time : 10-30 A.M. to 1-45 P.M.

ಪರಮಾವಧಿ ಅಂಕಗಳು : 100 ]

[ Max. Marks : 100

**FOR OFFICE USE ONLY**

**PART - A**

Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks
1.		9.		17.		25.		33.	
2.		10.		18.		26.		34.	
3.		11.		19.		27.		35.	
4.		12.		20.		28.		36.	
5.		13.		21.		29.		∞	
6.		14.		22.		30.		∞	
7.		15.		23.		31.		∞	
8.		16.		24.		32.		∞	

**Total Marks of Part - A**

**PART - B**

Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks
37.		41.		45.		49.		53.	
38.		42.		46.		50.		54.	
39.		43.		47.		51.		55.	
40.		44.		48.		52.		∞	

**Total Marks of Part - B**

Total Marks in words		Grand Total	
1. ✓			
2. ✓		✓	✓
Signature of Evaluators	Registration No.	Signature of the Deputy Chief	Signature of the Room Invigilator

*General Instructions :*

- i) The Question-cum-Answer Booklet consists of objective and subjective types of questions having 55 questions.
- ii) This question-cum-answer booklet contains *two* Parts. **Part – A** contains the questions of Physics and Chemistry and **Part – B** contains Biology questions.
- iii) The question-cum-answer booklet has 36 questions in **Part – A** and 19 questions in **Part – B**.
- iv) Space has been provided against each objective type question. You have to choose the correct choice and write the complete answer along with its alphabet in the space provided.
- v) For subjective type questions enough space for each question has been provided. You have to answer the questions in the space provided.
- vi) Follow the instructions given against both the objective and subjective types of questions.
- vii) Candidate should not write the answer with pencil. Answers written in pencil will not be evaluated. ( Except Graphs, Diagrams & Maps )
- viii) In case of Multiple Choice, Fill in the blanks and Matching questions, scratching / rewriting / marking is not permitted, thereby rendering to disqualification for evaluation.
- ix) **Space for Rough Work** has been printed and provided at the bottom of each page.
- x) Candidates have extra 15 minutes for reading the question paper.

**PART - A****( Physics & Chemistry )**

Four alternatives are given for each of the following questions / incomplete statements. Only one of them is correct or most appropriate. Choose the correct alternative and write the complete answer along with its alphabet in the space provided against each question. 10 × 1 = 10

1. In an external combustion engine the part which converts linear motion into rotation is
  - (A) crankshaft
  - (B) cylinder
  - (C) piston
  - (D) connecting rod.

Ans : \_\_\_\_\_

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**( SPACE FOR ROUGH WORK )**

2. The efficiency of diesel engine is usually expressed as
- (A)  $\frac{\text{heat supplied}}{\text{work done}}$  (B)  $\frac{\text{work done}}{\text{heat supplied}} \times 100$
- (C)  $\frac{\text{work done}}{\text{heat released}} \times 100$  (D)  $\frac{\text{work done}}{\text{heat released}}$

Ans : \_\_\_\_\_

3. Kiran who is reading in the classroom finds out whether a teacher is coming near the classroom or not even if he cannot see the teacher. It is because he
- (A) knows about sonar
- (B) knows about ultrasonics
- (C) is aware of Doppler effect
- (D) knows about frequency and wavelength.

Ans : \_\_\_\_\_

4. The ill-effect experienced by the people of Japan even today after the explosion of atom bomb during Second World War is
- (A) Premature cataract (B) Skin cancer
- (C) Genetic disorder (D) Hepatitis.

Ans : \_\_\_\_\_

5. When X-rays are passed through a body one can know about broken bones because
- (A) bones are opaque to X-rays
- (B) X-rays give pain when fallen on the broken part
- (C) the broken part of the bone shines
- (D) the broken part of the bone vibrates when X-rays fall on it.

Ans : \_\_\_\_\_

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( SPACE FOR ROUGH WORK )

6. In modern drinking water purifiers bacteria-free water is obtained by which of the following electromagnetic radiations ?

- (A) Radio waves (B) Ultraviolet rays  
(C) Gamma rays (D) X-rays.

Ans : \_\_\_\_\_

7. Emission test should be conducted for vehicles which use liquefied petroleum gas to detect which poisonous gas ?

- (A) Carbon dioxide (B) Sulphur dioxide  
(C) Carbon monoxide (D) Nitrogen dioxide.

Ans : \_\_\_\_\_

8. Lead glass is used in the preparation of lenses because it has good transparent nature in addition to which of the following properties ?

- (A) It has high refractive index  
(B) It can withstand stress  
(C) It can tolerate variation of temperature  
(D) It is light and strong.

Ans : \_\_\_\_\_

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( SPACE FOR ROUGH WORK )

9. Another chemical substance that should be heated with fatty oil in the manufacture of soap is

- (A) Sodium chloride (B) Sodium sulphate  
C) Calcium sulphate (D) Sodium hydroxide.

Ans : \_\_\_\_\_

10. Sodium N-dodecyl Benzene Sulphonate, which is prepared from petroleum, can

- (A) produce scum in hard water (B) clean in hard water  
C) not cause water pollution (D) remove salt from water.

Ans : \_\_\_\_\_

Fill in the blanks :

3 × 1 = 3

11. The device that converts solar energy directly into electrical energy is called .....

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12. In radio transmitter audible sound will be converted into corresponding electrical signals by the device .....

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( SPACE FOR ROUGH WORK )

13. In a person, kidney stones are formed. The sound waves to remove these stones are called .....
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14. Match the words in **List-A** with their meanings in **List-B**. Write the correct answer in the space provided : 4 × 1 = 4

<b>List-A</b>	<b>List-B</b>
(a) Cyclopropane	(i) $C_6H_{12}$
(b) Cyclohexane	(ii) $C_4H_6$
(c) Ethyne	(iii) $C_4H_8$
(d) Butyne	(iv) $C_2H_2$
	(v) $C_6H_6$
	(vi) $C_4H_{10}$
	(vii) $C_3H_6$

- Ans. : a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_

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**( SPACE FOR ROUGH WORK )**

Answer the following :

6 × 1 = 6

15. Define centripetal force.

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16. Why does a runner while running in a sharp curved path lean inward ?

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17. What is magnitude scale of a star ?

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( SPACE FOR ROUGH WORK )

18. In Karnataka state generally load-shedding is done during summer. Why ?

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19. What is conservation of water ?

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20. What is the reason for enormous energy output of the sun ?

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( SPACE FOR ROUGH WORK )



Answer the following questions :

$9 \times 2 = 18$

21. Draw a neat diagram of a DC motor.

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( SPACE FOR ROUGH WORK )

22. Electricity is produced when a bar magnet is thrust into the conducting coil. What steps do you take to increase the electric current in the coil ?

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23. Draw a neat circuit symbol of *n-p-n* transistor and diode.

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( SPACE FOR ROUGH WORK )

24. Draw a neat diagram of internal combustion engine which is in the stage of power stroke.

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( SPACE FOR ROUGH WORK )

25. What is the alloy you prepare if you are given copper and tin ? Give one use of the alloy.

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26. When nitric acid is added to detect the presence of copper present in ornamental gold, what is the compound of copper formed ? Why does not gold change ?

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( SPACE FOR ROUGH WORK )

27. What is cement ? Name the substance which prevents too rapid setting of cement.

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28. Write four reasons about acute shortage of drinking water.

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( SPACE FOR ROUGH WORK )









33. Draw a neat diagram of nuclear reactor.

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( SPACE FOR ROUGH WORK )





**83-E**

20

36. Draw a neat diagram of blast furnace, which is used in the extraction of iron and label the parts.

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( SPACE FOR ROUGH WORK )

**PART – B****( Biology )**

Four alternatives are given for each of the following questions / incomplete statements. Only one of them is correct or most appropriate. Choose the correct alternative and write the complete answer along with its alphabet in the space provided against each question. 5 × 1 = 5

37. A plant which has multicellular cone like structure is

- (A) Angiosperm
- (B) Gymnosperm
- (C) Bryophyte
- (D) Pteridophyte.

Ans : \_\_\_\_\_

38. An animal tissue structured to engulf micro-organism and foreign bodies is

- (A) Connective tissue
- (B) Areolar tissue
- (C) Adipose tissue
- (D) Bone tissue.

Ans : \_\_\_\_\_

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**( SPACE FOR ROUGH WORK )**

39. The part of the brain which controls mastication and facial expression is

- (A) Cerebrum
- (B) Cerebellum
- (C) Pons
- (D) Hypothalamus.

Ans : \_\_\_\_\_

40. A person has defective teeth and protruded tongue. This is due to the hyposecretion of the hormone namely

- (A) Thyroxine
- (B) Parathormone
- (C) Insulin
- (D) Glucagon.

Ans : \_\_\_\_\_

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( SPACE FOR ROUGH WORK )

41. In a protected forest if all the carnivores are transferred, then the significant change would be
- (A) increase in vegetation
- (B) decrease in vegetation
- (C) no change in the number of herbivores
- (D) tourism will improve.

Ans : \_\_\_\_\_

42. Match the components of blood in **Column A** with their functions in **Column B** and write the answer in the space provided : 4 × 1 = 4

<b>Column A</b>	<b>Column B</b>
(a) Red blood cells	(i) clotting of blood
(b) White blood cells	(ii) transportation of substances in the body
(c) Platelets	(iii) produce lymph
(d) Plasma	(iv) stores fat
	(v) transport oxygen
	(vi) develops immunity
	(vii) provides internal support.

Ans. : (a) \_\_\_\_\_

(b) \_\_\_\_\_

(c) \_\_\_\_\_

(d) \_\_\_\_\_

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( SPACE FOR ROUGH WORK )

Answer the following in a sentence each :

4 × 1 = 4

43. What is Inflorescence ?

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44. Even though there is production of hydrochloric acid in the inner wall of stomach, it will not be damaged. Why ?

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45. Now it is preferred to use organic manures in place of chemical fertilizers in agricultural field. Give reason.

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( SPACE FOR ROUGH WORK )





48. Suggest any two methods to prevent spreading of Hepatitis-B.

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49. A bank employee works for more than eight hours a day using computer. Suggest any two measures to him to take care of his eyes.

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( SPACE FOR ROUGH WORK )



51. A farmer continues to cultivate Ragi and Maize on rotation in his field. What variation can be seen in the fertility of the field ?

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52. What is D.N.A. fingerprinting ? Where is this technology used ?

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( SPACE FOR ROUGH WORK )



54. Draw a neat labelled diagram of a typical flower and label the following parts :
- a) Ovary
  - b) Stigma.

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( SPACE FOR ROUGH WORK )

55. Draw a neat diagram of human ear and label the following parts :

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a) Tympanum

b) Cochlea.

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( SPACE FOR ROUGH WORK )

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( SPACE FOR ROUGH WORK )