















ସଂକ୍ଷେପରେ

ଘରୋଇ କଳିଚୁ

ସଂକ୍ଷେପରେ ଘରୋଇ କଳିଚୁ ବେତନଟା... ସଂକ୍ଷେପରେ ଘରୋଇ କଳିଚୁ ବେତନଟା... ସଂକ୍ଷେପରେ ଘରୋଇ କଳିଚୁ ବେତନଟା...

ସରକାରୀ ଗୋଦାମରୁ ଚାଉଳ ଚାଏବ

ଭଦ୍ରକ ଅଫିସ୍, ୧୦୧୨



ଭଦ୍ରକ ଚରମାନ୍ତର ଗୋଦାମରେ ଯାଞ୍ଚ କରାଯାଉଛି।

ମାଜିଷ୍ଟ୍ରେଟଙ୍କ ଦ୍ଵାରା ଗୋଦାମ ସିଲ୍... ଜିଲ୍ଲାପାଳଙ୍କ ତଦତ୍ତ ନିର୍ଦ୍ଦେଶ

ଭଦ୍ରକ ଜିଲ୍ଲା ଚରମାନ୍ତର ସରକାରୀ ଚାଉଳ ଗୋଦାମରୁ ୧୯୪ କୁଇଣ୍ଟାଲ ଚାଉଳ ନିଅଣ୍ଟ ହେବା ଘଟଣା ଘୋପନାଚାର ପଦାକୁ ଆସିଛି।

ଅନୁପସ୍ଥିତିରେ ଗୋଦାମର ଷ୍ଟକ ଯାଞ୍ଚ ହୋଇଥିଲା। ଯାଞ୍ଚ ବେଳେ ୮୮୧୨ କୁଇଣ୍ଟାଲ ଚାଉଳ ରହିବା ପରିବର୍ତ୍ତେ ୧୯୪ କୁଇଣ୍ଟାଲ (୪୦୦ ବସ୍ତା) ଚାଉଳ ନିଅଣ୍ଟ ଥିବା ଜଣାପଡ଼ିଥିଲା।

ବ୍ୟକ୍ତିତ୍ଵର ବିକାଶ

ଅପରିହାର୍ଯ୍ୟ

ଅନୁଗୋଳ ଅଫିସ୍, ୧୦୧୨... ସ୍ଵାମୀୟ ଯତ୍ନାୟ ସଂସ୍କୃତ ମହାବିଦ୍ୟାଳୟରେ ବ୍ୟକ୍ତିତ୍ଵ ବିକାଶ ଉପରେ ଏକ ଆଲୋଚନାଚକ୍ର ଅନୁଷ୍ଠିତ ହୋଇଯାଇଛି।

ବସଷ୍ଟାଣ୍ଡରୁ ଦୁଇ ମାସର ଶିଶୁ ଉଦ୍ଧାର

ଆନନ୍ଦପୁର, ୧୦୧୨(ସ.ପ୍ର.): ଯଦିପୁରା ଥାନା ଖପରାଖାଲ ୧ ନଂ ବସଷ୍ଟାଣ୍ଡରୁ ଘୋପନାଚାର ଦୁଇ ମାସର ଶିଶୁକୁ ଘୋପନାଚାର ଉଦ୍ଧାର କରିଛି।

ଢେଙ୍କାନାଳ... ଲୁଚି ଲୁଚି ପର ଅଇଁ ଖାଏ; ଘର ଆବରକୁ ଅସୁସ୍ଥ ପାଏ।

ଜଙ୍ଗଲ ଅଞ୍ଚଳରେ ବିଦ୍ୟୁତ୍ କାଟ

ଝୁମୁରା, ୧୦୧୨(ଡି.ଏନ.ଏ.): ଝୁମୁରା ଏବଂ ବାଂଶପାଳ ବ୍ଲକର ଜଙ୍ଗଲ ଅଞ୍ଚଳରେ ବନ ଓ ନେତ୍ରା ବିଭାଗ ମଧ୍ୟରେ ସମନ୍ଵୟ ଅଭାବରୁ ଲୋକେ ହଇରାଣ ହେଉଛନ୍ତି।

ଅର୍ଶ (ମଳକଣ୍ଠକ) - Piles ଓ ଭଗନ୍ଦର - Fistula ର ସଫଳ ଚିକିତ୍ସା... PUSHPA CLINIC (P) LTD.

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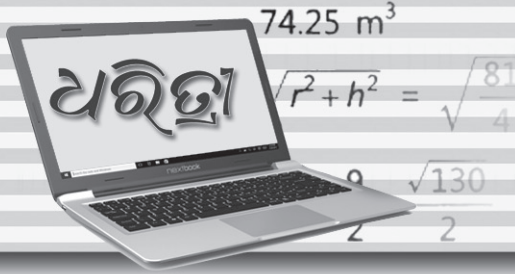
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# Exam Mate



Mock Test Paper for Std X, XII CBSE Board, IIT - JEE Main & Advanced.

FOR ANSWERS VISIT : [www.dharitri.com](http://www.dharitri.com)

## MOCK TEST PAPER # 1 CLASS-XII (PHYSICS)

**Time Allowed : 3 hours** **Maximum Marks: 70**  
**GENERAL INSTRUCTIONS**

- i. All questions are compulsory. There are 27 questions in all.
- ii. This question paper has five sections : Section A, Section B, Section C and Section D.
- iii. Section A contains five questions of one mark each, Section B contains seven questions of two marks each, Section C contains twelve questions of three marks each, Section D contains three questions of five marks each.
- iv. There is no overall choice. However, an internal choice has been provided in one question of two marks, one question of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.

### SECTION-A

1. What is the direction of the force acting on a charged particle q, moving with a velocity  $\vec{v}$  in a uniform magnetic field  $\vec{B}$  ?
2. The instantaneous current from an ac source is  $I = 5\sin 314t$  ampere. What is the rms value of the current ?
3. What is the value of refractive index of a medium of polarizing angle  $60^\circ$  ?
4. Name the part of electromagnetic spectrum which is suitable for
  - i. radar systems used in aircraft navigation.
  - ii. treatment of cancer tumours.
5. Two nuclei have mass numbers in the ratio 2 : 5. What is the ratio of their nuclear densities ?

### SECTION-B

6. Two point charges,  $q_1 = 10 \times 10^{-8}\text{C}$  and  $q_2 = -2 \times 10^{-8}\text{C}$  are separated by a distance of 60 cm in air.
  - i. Find at what distance from the 1st charge,  $q_1$ , would the electric potential be zero.
  - ii. Also calculate the electrostatic potential energy of the system.

OR

Two point charges  $4Q, Q$  are separated by 1 m in air.

- i. At what point on the line joining the charges is the electric field intensity zero ?
- ii. Also calculate the electrostatic potential energy of the system of charges, taking the value of charge  $Q = 2 \times 10^{-7}\text{C}$ .

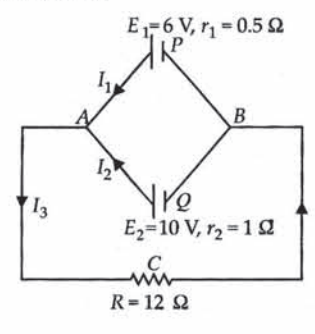
7. The oscillating magnetic field in a plane electromagnetic wave is given by  $B_y = (8 \times 10^{-6}) \sin[2 \times 10^{11}t + 320\pi x]\text{T}$ 
  - i. Calculate the wavelength of the electromagnetic wave.
  - ii. Write down the expression for the oscillating electric field.
8. List any four applications of intersect.
9. What conclusion can you draw from the following observations on a resistor made of alloy manganin ?

Current A	Voltage V	Current A	Voltage V
0.2	3.94	3.0	59.2
0.4	7.87	4.0	78.8
0.6	11.8	5.0	98.6
0.8	15.7	6.0	118.5
1.0	19.7	7.0	138.2
2.0	39.4	8.0	158.0

10. Calculate the energy in fusion reaction:  
 ${}^2_1\text{H} + {}^2_1\text{H} \rightarrow {}^3_2\text{He} + n$ , where B.E. of  ${}^2_1\text{H} = 2.23 \text{ MeV}$  and of  ${}^3_2\text{He} = 7.73 \text{ MeV}$
11. Answer the following questions:
  - (a) A virtual image, we always say, cannot be caught on a screen. Yet when we 'see' a virtual image, we are obviously bringing it on to the 'screen' (i.e., the retina) of our eye. Is there a contradiction?
  - (b) The refractive index of diamond is much greater than that of ordinary glass. Is this fact of some use to a diamond cutter ?
12. Why is the diffraction of sound wave more evident in daily experience than that of light wave ?

### SECTION-C

13. State Kirchhoff's rules. Apply Kirchhoff's rules to the loops ACBPA and ACBQA to write the expression for the current  $I_1, I_2$  and  $I_3$  in the network.



14. If a light beam shows no intensity variation when transmitted through a polaroid which is rotated, does it mean that the light is unpolarized ? Explain briefly.
15.
  - i. Define activity of a radioactive material and write its SI unit.
  - ii. Plot a graph showing variation of activity of a given radioactive sample with time.
  - iii. The sequence of stepwise decay of a radioactive nucleus is  $D \xrightarrow{\alpha} D_1 \xrightarrow{\beta^-} D_2$ . If the atomic number and mass number of  $D_2$  are 71 and 176 respectively, what are their corresponding values for D ?
16. A  $10\mu\text{F}$  capacitor is charged by a 30 V dc supply and then connected across an uncharged  $50\mu\text{F}$  capacitor. Calculate (i) the final potential difference across the combination, and (ii) the initial and final energies. How will you account for the difference in energy ?
17.
  - (a) Draw a ray diagram showing the formation of image by a reflecting telescope.
  - (b) Write two advantages of a reflecting telescope over a refracting telescope.
18. An electron and a proton are accelerated through the same potential. Which one of the two has (i) greater value of de Broglie wavelength associated with it and (ii) less momentum ? Justify your answer.
19. Write two basic modes of communication. Explain the process of amplitude modulation. Draw a schematic sketch showing how amplitude modulated signal is obtained by superposing a modulating signal over a sinusoidal carrier wave.
20. An illuminated object and a screen are placed 90 cm apart. Determine the focal length and nature of the lens required to produce a clear image on the screen, twice the size of the object.

OR

The image obtained with a convex lens is erect and its length is four times the length of the object. If the focal length of the lens is 20 cm, calculate the object and image distance.

21.
  - i. Draw a neat labelled ray diagram of an astronomical telescope in normal adjustment. Explain briefly its working.
  - ii. An astronomical telescope uses two lenses of powers 10D and 1D. What is its magnifying power in normal adjustment ?
22. The deuteron is bound by nuclear forces just as H-atom is made up of p and e bound by electrostatic forces. If we consider the force between neutron and proton in deuteron as given in the form of a Coulomb potential but with an effective charge  $e'$  :

$$F = \frac{1}{4\pi\epsilon_0} \frac{e'^2}{r^2}$$

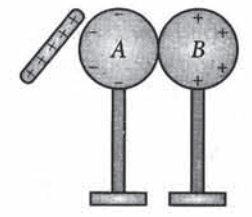
Estimate the value of  $(e'/e)$  given that the binding energy of a deuteron is 2.2 MeV.

23. White light reflected at perpendicular incidence from a soap film has, in the visible spectrum, an interference maximum at  $6000 \text{ \AA}$  and a minimum at  $4500 \text{ \AA}$  with no minimum in between. If  $\mu = 4/3$  for the film, what is the thickness of the film ?

OR

A convex lens of focal length 20 cm is placed coaxially with a convex mirror of radius of curvature 20 cm. The two are kept at 15 cm from each other. A point object lies 60 cm in front of the convex lens. Draw a ray diagram to show the formation of the image by the combination. Determine the nature and position of the image formed.

24. A glass rod rubbed with silk is brought close to two uncharged metallic spheres in contact with each other, inducing charges on them as shown in the following figure. Describe what happens, when
  - a. the spheres are slightly separated.
  - b. the glass rod is subsequently removed, and
  - c. the spheres are separated far apart.



### SECTION-D

25. Give the principle, construction, theory and working of an ac generator.
- OR
- Draw a labelled circuit arrangement showing the winding of primary and secondary coils in a transformer. Explain the underlying principle and working of a transformer. Write any two major sources of energy loss in this device.
26. A long straight wire of uniform cross section of radius a is carrying a steady current I. Use Ampere's circuital law to obtain a relation showing the variation of the magnetic field (B) inside and outside the wire with distance r, ( $r < a$ ) and ( $r > a$ ) at the field point from the centre of its cross section. Plot of graph showing the nature of this variation.

OR

State Biot-Savart's law. Using this law derive an expression for the magnetic field at a point situated at a distance of x metre from the centre of a circular coil of N turns and radius r carrying a current of IA.

27. Explain briefly, with the help of circuit diagram, how V-I characteristic of a p-n junction diode are obtained in (i) forward bias, and (ii) reverse bias. Draw the shape of the curve obtained.

OR

Discuss common emitter amplifier, using n-p-n transistor. Find its current gain, voltage gain and power gain.

For Answers visit: [www.dharitri.com](http://www.dharitri.com)



ସଂକ୍ଷେପରେ

ପ୍ରତ୍ୟକ୍ଷ ଟିକସ ଆଦାୟ ୧୫.୭% ବୃଦ୍ଧି



ନୂଆଦିଲ୍ଲୀ, ୧୦-୧୨: ଚଳିତ ଆର୍ଥିକ ବର୍ଷର ଏପ୍ରିଲକୁ ନିକଟତମ ମାସରେ ମୋଟ ପ୍ରତ୍ୟକ୍ଷ ଟିକସ ଆଦାୟ ୧୫.୭% ପ୍ରତିଶତ ବୃଦ୍ଧି ପାଇ ୭.୬୫ ଲକ୍ଷ କୋଟି ଟଙ୍କାରେ ପହଞ୍ଚିଛି।

ଏନପିଏସରେ ୬୦% ଟଙ୍କା ଉଠାଇ ଟିକସମୁକ୍ତ

ନୂଆଦିଲ୍ଲୀ, ୧୦-୧୨: କେନ୍ଦ୍ର ସରକାର ନ୍ୟାଶନାଲ ପେନସନ ସ୍କିମରେ କର୍ମଚାରୀ ୬୦ ପ୍ରତିଶତ ପର୍ଯ୍ୟନ୍ତ ଟଙ୍କା କାଢ଼ିଲେ ଏହା ସମ୍ପୂର୍ଣ୍ଣ ଟିକସମୁକ୍ତ ହେବ ବୋଲି ଅର୍ଥ ମନ୍ତ୍ରୀ ଅରୁଣ ଜେଟ୍ଟଲୀ ଏଠାରେ ପ୍ରକାଶ କରିଛନ୍ତି।

ମାଲ୍ୟାଙ୍କୁ ଆଣିବା ପାଇଁ ଅଷ୍ଟ୍ରାଲିଆ ସିବିଆଇ ଆର୍ଥିକ ରୋଡ୍ ଜେଲ ପ୍ରସ୍ତୁତ

ମଦ ବ୍ୟବସାୟୀ ବିକ୍ରୟ ମାଲ୍ୟା ପ୍ରତ୍ୟର୍ପଣ ମାମଲାର ରାୟ ପ୍ରକାଶ ପାଇଛି। ସେ ପ୍ରତ୍ୟର୍ପଣ ହେଲେ ତାଙ୍କୁ ମୂଧାଲର ଆର୍ଥିକ ରୋଡ୍ ଜେଲରେ ରଖାଯିବ।

ପ୍ରମୋଟରଙ୍କ ଅଂଶଧନ ହ୍ରାସ ଆରବିଆଇ ବିରୋଧରେ ହାଇକୋର୍ଟ ଗଲା କୋଟାକ୍ ମହିନ୍ଦ୍ରା

ନୂଆଦିଲ୍ଲୀ, ୧୦-୧୨ ପ୍ରମୋଟରଙ୍କ ଅଂଶଧନ ହ୍ରାସ କରିବା ନେଇ ରିଜର୍ଭ ବ୍ୟାଙ୍କର ନିର୍ଦ୍ଦେଶ ବିରୋଧରେ କୋଟାକ୍ ମହିନ୍ଦ୍ରା ବ୍ୟାଙ୍କ ବନ୍ଧେ ହାଇକୋର୍ଟରେ ମାମଲା ଦାଏର କରିଛି।

୨୦୧୮-୧୯ ଶେଷ ସୁଦ୍ଧା ଦେଶର ପାଦୋଞ୍ଚାର ଭେଦିକିଲ ସେଗମେଣ୍ଟରେ ପ୍ରଥମ ତିନି କମ୍ପାନୀ ମଧ୍ୟରେ ସ୍ଥାନିତ ହେବାକୁ ଲକ୍ଷ୍ୟ ରଖିଛି।



ବେଞ୍ଚର ବୁଦ୍ଧି, ସିଇଓ, ଟାଟା ମୋଟର୍ସ

ନିଜ ପ୍ରତିଦ୍ୱନ୍ଦ୍ୱୀଙ୍କୁ ନକଲ ନ କରି ସବୁ ବେଳେ ତାଙ୍କଠାରୁ ବହୁତ ଶିଖିବାର ଆବଶ୍ୟକତା ରହିଛି। ନକଲ କଲେ ତୁମେ ନିଜେ ଏବଂ ତୁମ ନକଲର ଅସ୍ତିତ୍ୱ ରହିବ ନାହିଁ।



କ୍ୟାକ୍ ମା, ପ୍ରତିଷ୍ଠାତା, ଆଲିବାବା ଗ୍ରୁପ

ବିବାଦ ନେଲା ଉର୍ଜିତଙ୍କ ପଦ

ନୂଆଦିଲ୍ଲୀ, ୧୦-୧୨: ଗତ ୨ ମାସ ଧରି ଚାଲିଥିବା ବିବାଦ ଭିତରେ ରିଜର୍ଭ ବ୍ୟାଙ୍କ ଅଫ୍ ଇଣ୍ଡିଆ (ଆରବିଆଇ) ଗଭର୍ଣର ଉର୍ଜିତ ପଟେଲ ସୋମବାର ତତ୍କାଳିନିକ ପଦରୁ ଇସ୍ତଫା ଦେଇଛନ୍ତି।



ଆରବିଆଇର ବଳକା ଅର୍ଥ ଚାହୁଁଥିଲା କେନ୍ଦ୍ର

ଆରବିଆଇ ନିକଟରେ ପଡି ରହିଥିବା ବଳକା ଅର୍ଥ ଉପରେ କେନ୍ଦ୍ର ସରକାରଙ୍କ ନଜର ଥିଲା। କେନ୍ଦ୍ରୀୟ ବ୍ୟାଙ୍କ ଏହି ଟଙ୍କାକୁ ଦେଇ ଦିଅନ୍ତୁ ବୋଲି କେନ୍ଦ୍ର ସରକାର ଚାହୁଁଥିଲେ।

ସମସ୍ୟାକୁ ଦୂର କରିବା ଲାଗି ଆରବିଆଇ ପକ୍ଷରୁ ବହୁ କଟକଣା କାରି କରାଗଲା। ଫଳରେ ସେମାନଙ୍କ ପାଇଁ ନଗଦ ସଙ୍କଟ ସୃଷ୍ଟି ହେଲା।

ସେହିପରି ୨୯ ନେଇ ସସ୍ପେନ୍ସ ନେଇ ସସ୍ପେନ୍ସ

ରଣ ବାଣିଜ୍ୟକୁ ନେଇ ଗୁହାଁଗୁହାଁ

୨୦୦, ୨୦୦୦ ଟଙ୍କା ଆନୋଟେଡ୍ ସ୍ୱାକ୍ଷର କରାଯିବ ପ୍ରଥମ ଗଭର୍ଣର

କରୁଛନ୍ତି ବୋଲି ବିରଳ ଅଭିଯୋଗ କରିବା ପରେ କେନ୍ଦ୍ର ଅର୍ଥମନ୍ତ୍ରୀ ଅରୁଣ ଜେଟ୍ଟଲୀ କେନ୍ଦ୍ରୀୟ ବ୍ୟାଙ୍କ ବିରୋଧରେ ପାଲଟା ଦୋଷାରୋପ କରିଥିଲେ।

ଏନପିଏସ୍‌ସିଙ୍କ ଲାଗି ନିୟମ କୋହଳ ଦାବି

ଭାରତୀୟଙ୍କ ପାଇଁ ଚିନ୍ତାର ବିଷୟ: ରାଜନ

ଆରବିଆଇ କଥା ଶୁଣି ନ ଥିବାରୁ କେନ୍ଦ୍ର ସରକାର ରିଜର୍ଭ ବ୍ୟାଙ୍କ ଆନୁମୋଦନ ଧାରା ୨୯କୁ ବ୍ୟବହାର କରିଛନ୍ତି ବୋଲି ଚର୍ଚ୍ଚା ହେଲା।

ଆରବିଆଇର କଥା ଶୁଣି ନ ଥିବାରୁ କେନ୍ଦ୍ର ସରକାର ରିଜର୍ଭ ବ୍ୟାଙ୍କ ଆନୁମୋଦନ ଧାରା ୨୯କୁ ବ୍ୟବହାର କରିଛନ୍ତି ବୋଲି ଚର୍ଚ୍ଚା ହେଲା।

ପ୍ରଧାନମନ୍ତ୍ରୀ, ଜେଟ୍ଟଲୀଙ୍କ ପ୍ରଶଂସା

ଆରବିଆଇ ଗଭର୍ଣର ପଦରୁ ଉର୍ଜିତ ପଟେଲ ସୋମବାର ଇସ୍ତଫା ଦେବା ପରେ ପ୍ରଧାନମନ୍ତ୍ରୀ ନରେନ୍ଦ୍ର ମୋଦି ଓ କେନ୍ଦ୍ର ଅର୍ଥମନ୍ତ୍ରୀ ଅରୁଣ ଜେଟ୍ଟଲୀ ତାଙ୍କ କାର୍ଯ୍ୟକୁ ଉଚ୍ଚ ପ୍ରଶଂସା କରିଛନ୍ତି।



ମୋଦି ତାଙ୍କ ରୁଜୁରୁରେ ଲେଖୁଛନ୍ତି ଯେ, ତତ୍କୃତ ଉର୍ଜିତ ପଟେଲ ଜଣେ ଉଚ୍ଚକୋଟୀର ଅର୍ଥନୀତିଜ୍ଞ। ମାତ୍ର ଉଚ୍ଚକୋଟୀରେ ତାଙ୍କର ଅଗାଧ ଜ୍ଞାନ ରହିଛି।

କେନ୍ଦ୍ରକୁ ରାଷ୍ଟ୍ରଲଙ୍କ ଟାଗେଟ୍

ଉର୍ଜିତ ପଟେଲଙ୍କ ଇସ୍ତଫା ପରେ କଂଗ୍ରେସ ଆଧ୍ୟକ୍ଷ ରାହୁଲ ଗାନ୍ଧୀ ଭାଙ୍ଗି ଦେବୁଧୀନ ଏନଡିଏ ସରକାରକୁ ସମାଲୋଚନା କରିଛନ୍ତି।



ମୋଦି ସରକାର ପ୍ରମୁଖ ନୀତି ଓ ବ୍ୟାଙ୍କିଙ୍ଗ ପ୍ରଣାଳୀ ଉପରେ କ୍ରମାଗତ ଗାଢ଼ ପଦକ୍ଷେପ ଗ୍ରହଣ କରିଛନ୍ତି।

Tender Notice section with details for Harabhangi Irrigation Division, Adava, Dist: Gajapati. Includes procurement notice No. 08/2018-19 and No. 45/CDB/2018-19.

Tender Notice section for Bhubaneswar Municipal Corporation. Includes tender call notice for supply of cartridges and horticulture products.

Large advertisement for Harabhangi Irrigation Division, Adava, Dist: Gajapati. Details include Office of the Executive Engineer, Harabhangi Irrigation Division, Adava, Dist: Gajapati. Procurement Notice No. 08/2018-19.





