# KENDRIYA VIDYALAYA SANGATHAN(KOLKATA REGION) FIRST PRE - BOARD EXAMINATION PHYSICS (THEORY) 042 <br> <br> MARKING SCHEME 

 <br> <br> MARKING SCHEME}

## Section A

Directions (Q1-Q10) Select the most appropriate option from those given below each question

| 1 | (c ) Removing $6.25 \times 10^{18}$ electrons | 1 |
| :--- | :--- | :--- |
| 2 | (b) $110 \Omega$ | 1 |
| 3 | (a) speed of the particle, | 1 |
| 4 | (c) 4 H | 1 |
| 5 | (c) Dual nature | 1 |
| 6 | (d) radio waves | 1 |
| 7 | (d) $160 \Omega$ | 1 |
| 8 | (b) ${ }_{26}^{56} \mathrm{Fe}$ | 1 |
| 9 | (c ) 60 Hz and 120 Hz. | 1 |
| 10 | (a) f/2 | 1 |

Directions (Q11-Q15) Fill in the blanks with appropriate answer.

| 11 | CONSTRUCTIVE | 1 |
| :--- | :--- | :--- |
| 12 | Open | 1 |
| 13 | Flux /field | 1 |
| 14 | $3^{\text {rd }}$ orbit/ $2^{\text {nd }}$ exited state. | 1 |
| 15 | KE is 2.5 eV. | 1 |

Directions (Q16-Q20) Answer the following

| 16 | Draw concentric circles with charge at the centre | 1 |
| :---: | :---: | :---: |
| 17 | No change | 1 |
| 18 | Convex lens <br> OR | 1 |
| 19 | $\mathrm{c}=\mathrm{E} / \mathrm{B}: \mathrm{B}=\mathrm{E} / \mathrm{c}=6.3 / 3 \mathrm{X} 10^{8}=2.1 \mathrm{X} 10^{-8} \mathrm{~T}$ | 1 |
| 20 | Correct Definition <br> Low power, long life (any two advantages of LED) | 1 |
|  | Section B |  |
| 21 | $\begin{aligned} & \mathrm{I}_{1} / \mathrm{I}_{2}=4 / 9 \\ & \mathrm{a} / \mathrm{b}=2 / 3: \frac{\mathrm{Imax}}{\mathrm{Imin}}=\frac{(\mathrm{a}+\mathrm{b})^{2}}{(\mathrm{a}-\mathrm{b})^{2}}=25: 1 \text { (Ans.) } \end{aligned}$ | 1+1 |


|  | OR <br> Ray diagram showing the image formation by an astronomical telescope Expression of its magnifying power $\mathrm{M}=\frac{\beta}{\alpha}=\frac{f o}{f e}$ | $\begin{aligned} & 1.5 \\ & +0.5 \end{aligned}$ |
| :---: | :---: | :---: |
| 22 | Total energy of hydrogen atom in $1^{\text {st }}$ excited state $=-13.6 \mathrm{eV} / 2^{2}=-3.4 \mathrm{eV}$. $\begin{aligned} & \mathrm{KE}=3.4 \mathrm{eV} \cdot\left(\mathrm{~K} \cdot \mathrm{E}=\frac{k Z e^{2}}{2 r}\right) \\ & \mathrm{PE}=-6.8 \mathrm{eV}\left(\mathrm{P} \cdot \mathrm{E}=-\frac{k Z e^{2}}{r}\right) \end{aligned}$ | $\begin{aligned} & \hline 1 \\ & 1 / 2 \\ & 1 / 2 \end{aligned}$ |
| 23 | I. For Same kinetic energy. $\lambda=\frac{h}{\sqrt{2 m E}}$ <br> (1:2) <br> II. Same accelerating stopping potential $\lambda=\frac{h}{\sqrt{2 m q V}}(1: 2 \sqrt{ } 2)$ | 1+1 |
| 24 | Definition of the magnetic dipole moment. Derivation of the expression for the magnetic dipole moment | $\begin{aligned} & 0.5+ \\ & 1.5 \end{aligned}$ |
| 25 | $R=\frac{\rho l}{A} \quad ; \mathrm{l}=1 / \rho$ <br> Resistivity $\rho$ is greater for manganin, hence copper wire is longer. | $\begin{aligned} & \hline 1 \\ & +1 \end{aligned}$ |
| 26 | Statement of Lenz's law. <br> Yes ; emf will be induced in the rod due to the motion of the straight rod in the earth's magnetic field .(motional emf) | 1+1 |
| 27 | Energy band diagram of $\mathrm{p} \& \mathrm{n}$ type semiconductors. <br> Difference between p and n type semiconductor $\mathrm{E}_{0}=\mathrm{h} v_{0}=\mathrm{h} c / \lambda_{0}=6.6 \times 10^{-34} \mathrm{X} 3 \times 10^{8} / 6 \times 10^{-7} \times 1.6 \times 10^{-19}=2.06 \mathrm{eV}$ <br> As the energy of the incident radiation is less than the energy gap, can't detect. | $\begin{aligned} & \hline 0.5+0.5 \\ & 0.5+0.5 \\ & 1.5+0.5 \end{aligned}$ |
|  | Section C |  |
| 28 | Circuit diagram,+ working principle of Meter Bridge. Precautions (any two) $\begin{aligned} & \mathrm{R}=\mathrm{R}_{0}\left[1+\alpha\left(\mathrm{T}-\mathrm{T}_{0}\right)\right] \\ & \mathrm{R}_{1}=200[1+0.0031 \times 100]=200 \times 1.31=262 \Omega \\ & \mathrm{R}_{2}=100[1+0.0068 \times 100]=100 \times 1.68=168 \Omega \\ & \mathrm{R}_{\mathrm{S}}=\mathrm{R}_{1}+\mathrm{R}_{2}=262+168=430 \Omega . \end{aligned}$ | $\begin{aligned} & \hline 1+1 \\ & 0.5+0.5 \\ & 0.5 \\ & +2 \\ & +0.5 \end{aligned}$ |
| 29 | (a)Half life of a radioactive element (b) decay constant $\mathrm{T}_{1 / 2}=\frac{0.693 ;}{\lambda} \quad \lambda=0.693 \times 10^{-3} \mathrm{sec}^{-1}$ time taken 4000 sec | 1+1+1 |
| 30 | (a) To make the angle between area vector and magnetic field vector perpendicular + by using cylindrical magnet <br> (b) For equations <br> Solving we get $\begin{aligned} & V=I_{g}(R+G) \\ & V / 2=I_{g}\left(R^{\prime}+G\right) \\ & R^{\prime}=R-G / 2 \end{aligned}$ | $\begin{aligned} & 0.5+0.5 \\ & 2 \end{aligned}$ |


| 31 | Definition of capacitive reactance. <br> The graph showing the variation of capacitive reactance with frequency of AC <br> (i) $\quad C=\frac{\epsilon_{0} A}{d}$ decreases, $\mathrm{X}_{\mathrm{c}}=1 / \mathrm{wC}$ increases, current in the circuit and brightness of the bulb decreases, <br> (ii) $\mathrm{C}=\mathrm{KC}_{0}$ increases, $\mathrm{X}_{\mathrm{c}}=1 / \mathrm{wC}$ deceases, current in the circuit and brightness of the bulb increases, <br> OR <br> Derivation of Power in $\mathrm{AC}+$ correct explanation of the condition | $2+1$ |
| :---: | :---: | :---: |
| 32 | Circuit diagram+working of full wave rectifier Input and output waveforms. | $\begin{aligned} & 0.5+1.5 \\ & 0.5+0.5 \end{aligned}$ |
| 33 | Sketch showing of a plane electromagnetic wave <br> I. UV radiations. <br> II. Radio waves. <br> III. Infrared radiations. | $\begin{aligned} & 1.5+ \\ & 1.5 \end{aligned}$ |
| 34 | I. Definition <br> II. Derivation of relation between critical angle and refractive index. <br> III. any one phenomenon based on total internal reflection. | 1+1+1 |
|  | Section D | 3 |
| 35 | (a) Labeled diagram + principle and working of a cyclotron. <br> (b) Expression of time period $\mathrm{T}=2 \Pi \mathrm{~m} / \mathrm{qB}$ <br> (c) $\mathbf{r}=\frac{\boldsymbol{m} \boldsymbol{v}}{\boldsymbol{B} \boldsymbol{q}}+$ correct solution <br> OR <br> (a) Derivation for the force + definition of one ampere. <br> (b) Magnetic field lines <br> (c) correct solution | $\begin{aligned} & 3 \\ & +1 \\ & 0.5+0.5 \\ & 2 \\ & 1 \\ & 2 \end{aligned}$ |
| 36 | Ray diagram + expression for the refractive index +Two diagrams <br> OR <br> a) The fringe width of the slit is doubled; the intensity of interfering waves becomes four times, intensity of maxima becomes 16 times i.e fringes become brighter. <br> b) $\beta \propto 1 / \mathrm{d}$, when separation between the slits is increased the fringe width decrease, i.e the fringes come closer. <br> c) $\beta \alpha \mathrm{D}$, when screen is moved away from the plane of the slits, the fringe width increases, i.e fringes become farther away <br> Graph showing the variation <br> Graph showing the variation | $\begin{aligned} & 1+2+2 \\ & 1+1+1 \end{aligned}$ <br> 1 1 |


| 37 | (a) Definition of dipole+ expression for torque + direction of the torque <br> (b) Potential energy of a dipole <br> (c) work done in rotating the dipole from unstable to the stable equilibrium. <br> OR | OR <br> (a) Derive an expression for the capacitance <br> (b) (i) electric field $=\mathrm{E}_{0} / \mathrm{K}$ |
| :--- | :--- | :--- |
| (ii) the energy stored in the capacitor $=1 / \mathrm{K}$ times $\frac{1}{2} \varepsilon_{0} E^{2}$ | 3 |  |

## KENDRIYA VIDYALAYA SANGATHAN

## SAMPLE PAPER - 2019

CLASS: XII

## SUBJECT: ACCOUNTANCY

TIME: 3 HOURS
MAX. MARKS: 80

## General Instructions:

(i) This question paper contains two parts $A$ and $B$
(ii) Both Part A and Part- B are compulsory.
(iii) All parts of the questions should be attempted at one place.
(iv) Show your workings clearly wherever necessary.

PART A: ACCOUNTING FOR NPO, PARTNERSHIP FIRMS AND COMPANIES
(60 MARKS)

| 1 | D | 1 |
| :--- | :--- | :--- |
| 2 | B | 1 |
| 3 | C | 1 |
| 4 | A | 1 |
| 5 | D | 1 |
| 6 | B | 1 |
| 7 | D | 1 |
| 8 | C | 1 |
| 9 | Life membership Fee | 1 |
| 10 | Employees Stock Option Plan grants options to its employees to subscribe for <br> shares of company at a predetermined price. This option is a right but not an <br> obligation. This option is only for those employees who fulfil the prescribed <br> terms and conditions. | 1 |
| 11 | Reserve Capital | 1 |
| 12 | D | 1 |
| 13 | Shareholder's fund-share capital-added as a last item | 1 |
| 14 | $3,97,500+18,000-45,000-60,000$ = $3,10,500$ | 1 |


|  | $\begin{aligned} & \hline \text { Total subscription due }=375 \quad 1,000=3,75,000 \\ & \text { Subscription outstanding }=3,75,000-3,10,500=64,500 \\ & \text { OR } \\ & \text { Rs. } 13,500 \end{aligned}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | Average profit $=68,000-8000=60,000$ <br> Normal profit $=3,50,000 \times 12 / 100=42,000$ <br> Super profit $=60,000-42,000=18,000$ <br> Goodwill $=18,000 \times 2=36,000$ |  |  |  |  |  |  |
|  |  | Particulars <br> Z's Capital A/c ...Dr. <br> To X's Capital A <br> To Y's Capital <br> (Int. on drawings omitt <br> Particulars <br> Int. on Drawings to be charged @ 5\% p.a. for 6 months (Dr.) <br> adjustment of profits (Cr.) <br> Net adj. | d, Now A | Amtry <br> Am <br> Y <br> 315 <br> 330 <br> 15 Cr. | .) <br> 35 $\begin{array}{r} \hline Z \\ \hline 300 \\ \\ 165 \\ \hline 135 \\ \text { Dr. } \end{array}$ | An <br>  <br> 0 <br> 5 <br> Total <br> 990 <br> 990 <br> ----1 | 4 |
| 16 |  | Realisation A/c <br> To A's Capital A/c <br> (For agreed commission allow <br> A's Capital A/c | d to partn | $\begin{gathered} \mathrm{dr} \\ \\ \hline \mathrm{dr} \end{gathered}$ |  |  |  |








|  |  |  |
| :---: | :---: | :---: |
|  | PART B: FINANCIAL STATEMENTS ANALYSIS <br> (20 MARKS) | 8 |
| 23 | State whether cash deposited in bank will result in inflow, outflow or no flow of cash while preparing Cash Flow Statement. |  |
|  | No Flow | 1 |
| 24 | Under which type of activity will you classify 'Sale of shares of another company' while preparing the Cash Flow Statement. |  |
|  | Investing Activity. | 1 |
| 25 | Which of the following is not the Tool of Financial Statement Analysis <br> (a) Common Size Statement <br> (b) Revaluation $\mathrm{A} / \mathrm{c}$ <br> (c) Cash Flow Statement <br> (d) Accounting Ratio |  |
|  | B | 1 |
| 26 | C |  |
| 27 | Quick Ratio = LA/CL $1.8=\mathrm{LA} / 30,000$ LA $=\square 54,000 \quad ;$ Inventory $=$ CA-LA $=80,000-54000=\square 26,000$ | 1 |




| Working Notes : |  |  |  |
| :---: | :---: | :---: | :---: |
| Fixed Assets A/c |  |  |  |
| Balance b/d | 4,00,000 | Cash (Sale) | 12,000 |
| Profit \& Loss A/c (profit) | 2,000 | Depreciation (Bal. Fig) | 70,000 |
|  |  | Balance c/d | 3,20,000 |
|  | 4,02,000 |  | 4,02,000 |
| Investments A/c |  |  |  |
| Balance b/d | 50,000 | Cash (Sale) | 8,500 |
| Profit \& Loss A/c (profit) | 500 | Balance c/d | 60,000 |
| Cash (Purchase) (Balfig.) | 18,000 |  |  |
|  | 68,500 |  | 68,500 |

# KENDRIYA VIDYALAY SANGATHAN KOLKATA REGION <br> PRE BOARD EXAM (SESSION: 2019-20) <br> CLASS-XII <br> SUBJECT-HISTORY (027) <br> Marking Scheme 

1-B
2-Rakhal das Banerji.
3- The resolution of Poorna Swaraj or complete independence was taken up.
4-V.S. Sukthanker.
5-B
6-Stone, metal and clay
7-B
8-C
9-A
10-Perfect crop(cash crop).
11-D
12-C
13- Pt. J.L.Nehru
14-Shimla and Darjeeling
$15-\mathrm{D}$
16-B
17-B
18-A
19-A
20-Sanchi Stupa OR Shahjahan Begum of Bhopal
Q 21-1-By studying artifacts of the archaeology such as seals, houses pots etc

2-On the basis of evidences related with different occupations of the archaeologists (or archaeo-botanist or archaeo-zoologist) indicate that people of different occupations or the different socio-economic positions in Harappan cities

3-Study of Burials to find out socio-economic differences.
4- From archaeological evidences classifying the people in two category-rich and poor.
5-Archaeologists on the basis of occupational evidences say that the weavers, farmers, hunters, gatherers, fishermen, traders, artisans used to live in these cities.

Q 22-1-They criticize the conservative social beliefs in society.
2- They did not believe in the cast system of society.
3-They do work for integration of whole society.
4-They used local languages to preach their views.
5-They emphasized that the path of salvation lay in the devotion to God and obedience to his will.

Or
1-The alvar and nayanar saints popularized bhakti movement in South India during 6th to 8th century.

2-They influenced the Bhakti movement in Tamil.
3-they came from different caste and followed different professions.
4- They preached the path of surrendering oneself to God.
5-These saint - poets travelled from place to place, singing hymns in praise of different Gods.

6-The Chola kings built temples at places visited by these saints.
7- Between the fifth and ninth century, in the Tamil-speaking region of South India, these saints revitalized the Indian religious milieu, sparking a renewal of devotional worship throughout the subcontinent.

Q 23- Ans. (a) Only a Sepoy mutiny -
(i) The main ground for the uprising had been prepared by the soldiers.
(ii) Important and immediate causes of the revolt was the use of greased cartridges.
(iii) The revolt did not spread throughout the country.
(iv) The revolt did not enjoy the cooperation and support of the common people.
(b) First war of Independence - Lakhs of artisans, farmers and soldiers struggled united against the British rule.
(c) Hindu and Muslim took actively part in the movement.
(d) The masses took active part in the struggle against the British at almost all centres of uprisings.
(e) It had country wide presence. (Any three relevant points)

Q 24- The American civil war affected the lives of ryots in following way:
1-Earlier British was heavily dependent on America for supply of Raw Cotton .British started looking for the alternative source of supply.

2-Established Cotton supply Association in 1857 and Manchester cotton Company in 1859. Objective was to encourage cotton production in all parts of the world especially India.

3-Merchants gave advances to urban Sahukars who in turn extended credit to rural money lenders to acquire more cotton.

4-This development had a major impact on the peasants in the Deccan who suddenly had access to limitless credit. Rich peasants benefitted by these developments but for the large majority of peasants' cotton expansion meant heavier debt.

5-When the civil war ended, exports of Indian cotton declined and cotton prices dropped .The moneylenders began to restrict advances to the peasants and demanded payment of debts. Revenue were also increased. When peasant once again turned to moneylender, he refuse to give them loans. This led to impoverishment in peasantry and outbreak of peasant revolt in Deccan.

Q 25-1-Central administration, Mantri parishad to advice
2-Two capitals- pataliputra and rajgir, and provincial centres - taxila Ujjayini, Tosali, suvarnagiri.

3-Empire divided into district, than into villages, district head- sthanika and village headGramika.

4-30 members of six sub committees consisting of five member each. IST committeeinfantry, II committee - cavalary, III committee - war elephants, IV committee - transport and V committee -navy.

5-Transport committee had the responsibility to arrange bullock cart to carry equipment, procuring food for soldier and fodder for animals, and recruiting servant and artisans to look after the soldiers.

6-Ashoka even appointed new department to propagate dhamma, Dhamma mahamatta.

## OR

The sixteen Mahajanapadas Magadha alone was ultimately successful in the experiment of building an empire in India. The causes that favored Magadha may be summed up as follows:
1- Magadha had an advantage of geographical position, for the iron mines were located around Rajgir and Pataliputra. Iron was necessary for an all round advancement.
2- Magadha's capital Pataliputra was located in a very advantageous position, mvulnerajle because of natural barrier.
3- Magadha geographically was located at the centre of the Gangetic plain. This fertile area could produce enough surpluses to help its rulers to fill in the treasury.
4- Magadha's success was also due to appearance of several energetic and ambitious rulers who deployed all their means to extend and strengthen Magadha.

Q 26- Regulation of rural society by panchayats and headmen:
1-Panchayat assembly of elders of village, usually important people of the village with hereditary right over their property.

2-In oligarchy, the panchayats represented various castes and communities in village. The decisions made by these panchayats were binding on the members.

3-Panchayat headed by headmen known as Muqaddam or Mandal Headmen supervised the preparation of village accounts

4-The panchayats derives its funds from contributions made by individual to common financial pool.

5-Expenses for entertaining revenue officials community welfare activity such as tiding over natural calamities etc. were met from these funds

6-Important function of the panchayat was to ensure that caste boundaries among the various communities in the villages were upheld.

7-Imposing fines and expulsion from caste and community etc.

## OR

1-During the Mughal period, the women worked equal to men.
2-The responsibilities were divided between both men and women in the agrarian sector.

3-Men tilled and ploughed, whereas women sowed, weeded, threshed and winnowed the harvest. Since women were also involved in the field, there was no segregation of work between the home (housewife) and the outside world (dominated by men).
4- there were certain biases that did exist during that time as well. It was related to the biological functions of women. For instance, during the time of menstruation, women were not allowed to touch agricultural tools.
5-Women were also employed in artistic work such as spinning yarn, sifting and kneading clay for pottery, and embroidery.
6 -Women were the child bearers and an important resource in the agrarian society. But due to the high mortality rate among women, remarriages were also allowed

## Q 27- Economic Causes:-

1-Drain of wealth
2-Destruction of Indian industries, trade \& commerce.
3-Exorbitant rate of land revenue.
4-Resumption of Inami or rent-free lands.
5-Unemployment and poverty among the masses

## Political and Administrative causes

1-Imperialist policy of the British administrators.
2-Doctrine of Lapse
3-Abolition of pensions and Titles.
4-Disrespect to the Mughal Emperor.
5-Annexation of Awadh
6-Misuse of Subsidiary alliance.

Q 28- See the passage
Q 29- - See the passage
Q 30-- See the passage
Q 31.2 A-Jhansi B-Kolkata/Bairakpur C- Meerut/Delhi

## Answer for visually impaired candidates

Q 31.1 (i)Agra (ii)Fatehpur Sikri (iii)Delhi
Q 31.2 (i)Kolkata (ii)Amritsar (iii)Dandi.

