| | 2018-2019 | FILE | PHY | /SICS |); | Ann | ual E | xamination |
|---|--|--|--|--|---|--|--|--|
| | | | Sec | tion-A | | | | |
| | 120 | | Choice | | | | | |
| Q.1: | Choose the corr | | | | 100 | TO THE OWNER WHEN | | |
| (i) | If the coefficient | of linear e | xpansion | of a sol | id is 0.0 | 009, its | cu-e | Micient of volume |
| expan | isino is: | | | | | | | |
| | (a) 0.00003 | THE R. P. LEWIS CO., LANSING, MICH. | 00009 | | (c)0.00 | 016 | (d) 0. | 0027 |
| (ii) | Absolute zero on | Fahrenhel | t scale is | equalto | | | | |
| | (a) 523oF | (b) 2 | 73oF | | (e) 460 | oF | (d) 4 | 91eF |
| (iii) | The resistance of | f a wire is | R ohm. | f the wir | re is stre | atched I | o dou | ble its length, its |
| resista | ance becomes: | | | | | | | |
| | -(a) 2R | (b)R | /2 | | (c) R/4 | | (d) 4F | |
| (iv) | Direction of elect | ric field int | ensity is | always | to | the elec | tric fi | eld lines at every |
| point. | | | | | | | | |
| | (a) Parallel | (b) Ta | inegna | | (c) Perp | endicu | ar (d | None of these |
| (v) | Two capacitors of | capacitar | ice 2C an | d C rest | pectively | are do | nnect | ed in series, their |
| equiva | elent capacitance b | | | - 1 | | | | |
| | (a)2C | (b) G | 12 | | (c) 2C/3 | | | (d)3C/2 |
| (vi) | Resistance of a | | | | | | for all | |
| 000 | оп ехсерт: | | | | | | | or and remarking |
| | (a) Increase in cro | es-section | nal area | (h) Incr | nana in i | enoth | | |
| | (c) Increase in ten | | | | | STATE OF THE PARTY OF | do not to | ne material |
| (vii) | Electron volt is a u | CONTRACTOR OF THE PARTY OF THE | | falue | Onno arr | comove | ny ca u | na matema: |
| (An) | | | | | | | Wind. | |
| Cont. | A STATE OF THE PARTY OF THE PAR | Frequenc | Property of the last of the last | (c) Pote | | | (d) En | ergy |
| (VIII) | Isobaric changes | | | | | | | |
| PiV. | (i) Internal energy | | | | | d) Tem | peratu | ire |
| ix) | Two parallel wires | carrying o | urrentins | ame din | actions: | | | |
| | (a) Repel each oth | | | (b) Attra | ct each | other | | |
| | (c) Neither attract | nor repel | | (d) Can | cel each | other's | field | |
| k) | Apositron is anti pa | | | | | | | |
| W. | (a) Photon | | actron | (c) Dest | on / | d) Neut | non. | |
| -FX | | | | 410 | | A 100 COLUMN 1 | | was sound the |
| xi) | When the temper | | ource an | d sink o | ou reac | engine | DUCK | anes equal, trie |
| intropy | y of the system beca | | | | and a | | 97 | |
| | (a) Zero | (b) Sa | | (c) Minir | 100000000000000000000000000000000000000 | 100012000001044 | 10 miles | // |
| xii) | When the forward | blas is app | olied to a | p-n junc | tion the | concen | tratio | of electrons on p |
| ide: | | | | | | | | 0, |
| | (a) Increase slight | y | (b) Inco | eases di | ramaticl | y | | ' O, |
| | (c) Decrease slight | tly | (d) Dec | eases d | ramatic | ly | | 7 |
| xiii) | An apparatus used | to compa | re the em | f of two | calls is: | | | Sion |
| | (a) Volt meter | (b) Av | o meter | - 1 | (c) Galvi | anomet | er | |
| | (d) Potentiometer | | | | transcere. | | | |
| xiv) | 1 atomic mass uni | t (a.m.u) in | terms of | eneray i | s nearly | egual to | 100 | |
| | (a) 931 MeV | | 244 4 4 | | (c) 139 f | | | 3 KeV |
| xv) | Which one of the fo | | | | | | | |
| 44 | | (b) Fu | | | | | | celerator |
| 475 | (a) Moderator | 4.4 | | | | EATE: | ujeu | Colorestor |
| xvi) | Bulk of the mass o | | | | IIIS. | es o | | Carrier III |
| o and | (a) Electron shells | (D) (D) | ucleus | | | | | utrons |
| xvii) | | | Carrie Communication | | (c) Proto | | | |
| | Which of the follow | ving is one | | ctions p | erforme | d by a d | iode? | |
| | (a) Amplifier | | | ctions p | | d by a d | iode? | |
| | | ving is one | tor | ctions p | erforme | d by a d | iode? | |
| | | ving is one | ter Sect | ctions p | erforme (c) Rect | d by a d | iode? | |
| Note: | (a)Amplifier | ving is one (b) Fi | Sect (Short | ctions p ion-B Answer | erforme (c) Rect | d by a d ifier | iode? (d) Inv | verter |
| | (a) Amplifier Answer any EIG! Calculate the spec | (b) Fi | Sect (Short, ollowing actron, if i | ion-B Answer questic | erforme (c) Rect) ons.Eac ses 60 e | d by a d ifier h ques V ener | iode? (d) Inv | verter arries 05 marks |
| 2.2: | (a) Amplifier Answer any EIG! Calculate the spec | (b) Fi | Sect (Short ollowing actron, if it and volume | ion-B Answer questic posses me expe | erforme (c) Rect) ens.Eac ses 60 e | d by a d ifier h ques V energibow th | iode? (d) Inv | erter arries 05 marks |
| 2.2: 2.3: exapa | (a) Amplifier Answer any EIG! Calculate the spector of the mate | (b) Fi | Sect (Short ollowing actron, if it and volume | ion-B Answer questic posses me expe | erforme (c) Rect) ens.Eac ses 60 e | d by a d ifier h ques V energibow th | iode? (d) Inv | erter arries 05 marks |
| 2.2: 2.3: exapa expan | (a) Amplifier Answer any EIG! Calculate the spectoring of the matersion, | ving is one (b) Fi HT fo the f ad of an ele t of linear rial of a | Sect (Short, ollowing actron, if it and volusubstance | ion-B Answer questic posses me expe e is one | erforme (c) Rect) ens.Eac ses 60 e inston. S | d by a d iffer h ques V enery Show th of the | tion c | erter arries 05 marks officent of lines iclent of volume |
| 2.2: 2.3: exapa expan 2.4: | Answer any EIGI Calculate the spec Define co-efficien nsion of the mate sion. Why heat is produ | ting is one (b) Fill HT fo the filled of an ele t of linear rial of a coed in a co | Sect (Short, ollowing actron, if i and volus substance | ion-B Answer questic posses me expe e is one | erforme (c) Rect) ens.Eac ses 60 e inston. Se third o | d by a d iffer h ques V enery Show th of the | tion c gy, at co- co-eff | arries 05 marks officent of lines icient of volume |
| 2.2: 2.3: exaper expen 2.4: 2.5: | Answer any EIGH Calculate the specificien nsion of the mate stori, Why heat is produ Describe mutual i | HT fo the find of an electrical of a conduction w | Sect (Short, ollowing actron, if it and volut substance anductor with the he | ion-B Answer questic posses me expe e is one | erforme (c) Rect) ens.Eac ses 60 e inston. Se third o | d by a d iffer h ques V enery Show th of the | tion c gy, at co- co-eff | arries 05 marks officent of lines icient of volume |
| 2.2: 2.3: exapa expan 2.4: 2.5: 2.6: | Answer any EIG! Calculate the specifice of the mate store. Why heat is produ Describe mutual is Write any Five app | HT fo the fine and of an elet of linear risal of a conduction wo discations of the fine and the | Sect (Short. ollowing actron, if it and volut substance inductor v ith the he of LASER | ctions p ion-B Answer questic posses me expa e is one when sie ip of the | erformer (c) Rect) ons, Eac ses 60 e ses 60 e ses for e setric our diagram | d by a d ifier h ques V enery Show th of the rent floo | tion c yy. at co- co-eff ws thre | erter arries 05 marks efficent of linea cleent of volume ough it? |
| Q.2: Q.3: exape expen Q.4: Q.5; Q.6: Q.7; | Answer any EIG! Calculate the specifice of the mate storn. Why heat is produ Describe mutual is Write any Five apy What will be the eight | HT fo the fi ed of an ele t of linear rial of a coed in a co nduction w discations of nergy of an | Sect (Short, ollowing ectron, if! and volus substance inductor with the he of LASER X-ray ph | ctions p lon-B Answer questic posses me expe e is one when ele ip of the coton of v | erformer (c) Rect) ons, Eac ses 60 e inston. Se third of ctric our diagram | d by a d ifier h ques V enery Show th of the rent floo | tion c yy. at co- co-eff ws thre | erter arries 05 marks efficent of linea cleent of volume ough it? |
| Q.2: Q.3: exapa expan Q.4: Q.6: Q.6: Q.7: Q.8: | Answer any EIG! Calculate the specifice of the mate storn. Why heat is produ Describe mutual is Write any Five apy What will be the eight what will be the eight when the set mass. | ving is one (b) Fil HT fo the filed of an elet of linear rial of a seed in a conduction work of the filed of a seed in a conduction of a seed of a photo | Sect (Short. ollowing actron, fill and volus substance anductor with the he of LASER i X-ray phon is zero | ion-B Answer questic t posses me expe e is one when ele p of the oton of v 7 Explain | erformer (c) Rect) ens. Eac ses 60 e inston. Se third of octric our diagram wave len | d by a differ h ques V enery Show the of the rent flor and de | tion c jy. at co-co-eff ws threshing h | erter arries 05 marks efficent of linea client of volume ough it? nry. 8m. |
| Q.2: Q.3: exapa expan Q.4: Q.6: Q.6: Q.7: Q.8: Q.9: | Answer any EIG! Calculate the specifice of the mate ston. Why heat is produ Describe mutual is write any Five apy What will be the eight of the rest mass if an electron and | ving is one (b) Fil HT fo the filed of an elet of linear rial of a seed in a conduction work of the filed of a seed in a conduction of a seed of a photo | Sect (Short. ollowing actron, fill and volus substance anductor with the he of LASER i X-ray phon is zero | ion-B Answer questic t posses me expe e is one when ele p of the oton of v 7 Explain | erformer (c) Rect) ens. Eac ses 60 e inston. Se third of octric our diagram wave len | d by a differ h ques V enery Show the of the rent flor and de | tion c jy. at co-co-eff ws threshing h | erter arries 05 marks efficent of linea client of volume ough it? nry. 8m. |
| 2.2: 2.3: exapa expan 2.4: 2.5: 2.6: 2.7: 2.8: 2.9: has gr | Answer any EIG! Calculate the specific co-efficient co-efficient co-efficient consion. Why heat is produced by the any Five app What will be the eight who will be the eight an electron and mater speed? | ving is one (b) Fil dT fo the filed of an elet of linear rial of a location work of a photo a proton him a p | Sect (Short, ollowing actron, if it and volus substance anductor v ith the he of LASER i X-ray ph on is zero ave the sa | ctions p clon-B Answer questic posses me expe e is one when ele ip of the oton of v 7 Explair arme De- | erformer (c) Rect) ons.Eac ses 60 e inston. Se third of octric our diagram wave len n. Brogille v | d by a d iffer h ques V enery Show th of the rent flor and de | tion c y, at co- co-eff ws thre fine h | erter arries 05 marks officent of lines icient of volume ough it? nry. 6m. which particle |
| 2.2: 2.3: exapa expan 2.4: 2.5: 2.6: 2.7: 2.8: 2.9: has gr Q.10: | Answer any EIGH Calculate the specificer period of the material of the material of the material of the material of the eight of the eight of the eight of the eight of the speed at the speed at the speed at the eight of the eig | ving is one (b) Fil IT fo the filed of an elet of linear rial of a seed in a conduction wo discations onergy of are so fia photo a proton his which the | Sect (Short, ollowing actron, if it and volue substance anductor v ith the he of LASER i X-ray ph on is zero ave the sa mass of a | ctions policins polic | erformer (c) Rect) yns.Eac ses 60 e unaton. Se third of ctric our diagram wave len n. Brogille v s twice c | d by a d iffer h ques V enery Show th of the rent flor and de | (d) Invition c (d) In | erter arries 05 marks officent of lines icient of volume ough it? nry. 6m. which particle |
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| expan Q.4: Q.6: Q.6: Q.7: Q.8: Q.9: has gr Q.10: Q.11: same' Q.12; | Answer any EIG! Calculate the special Define co-efficient noion of the mate ston. Why heat is produ Describe mutual is Write any Five apy What will be the eighth will be the eighth of the rest mass if an electron and reafer speed? Find the speed at Both potential difference of the speed at Both potential difference or speed at Both po | ving is one (b) Fil AT forthe filed of an elet of linear rial of a locations of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a proton his which the ference as of a photo a pho | (Short, ollowing actron, if i and volume substance and uctor with the heart X-ray phon is zero ave the sand electron disconant disconant disconant disconant in the sand electron are the sand electron disconant disconant in the sand electron is zero ave the sand electron disconant disconant in the sand electron is zero ave the sand electron disconant disconant in the sand electron is zero averaged. | ctions policins polic | erformes (c) Rect) ens.Eac ses 60 e inston. Se third of diagram wave ten n. Brogile v s twice ce force a | h quesive eactor. | tion c (d) Institute and the control of the control | erter arries 05 marks efficent of linear iciant of volume ough it? nry. Brn. which particle s? si in volt. Are the |

the wire in one second?

Section-C

(Descriptive Answer)

Note: Answer any TWO of the following questions. Each question carries 14(7+7) marks.

- Q.14(a): Why a gas has two specific heats? show that molar specific heat of a gast at constant pressure is equal to sum of its specific heat at constant volume and molar gas constant.
- (b) Explain photoelectric effect on quantum theory and show that no photoelectron can be ejected from a metal surface, if frequency of the incident light is less than its critical value. Q.15(a): Deriv an expression for the force experienced by a current carrying conductor placed in a uniform magnetic field.
- (b) What are the basic postulates of Bohr's atomic theory? Derive an expression for energy of the electron in n th orbit of a hydrogen atom?
- Q16(a): Write notes on any TWO of the following:
 - (i) Parallel Plata Capaction
 - (ii) Potentimoeter
 - (iii) Radioactivity and Half life
 - (iv) Power dissipation through a resistor

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