

K.S ACADEMY, SALEM-POLYTECHNIC TRB ANSWER KEY

K.S ACADEMY, SALEM**PG TRB ,ENG & POLYTECHNIC TRB & TNSET
COACHING CENTRE FOR PHYSICS**

PQR 2017 PHYSICS TENTATIVE KEY PUBLISHED ON 17-09-2017(3 PM)

(TRB ANSWER KEY IS FINAL)

POLYTECHNIC TRB –PHYSICS(2017) BOOKLET SERIES D ANSWER KEY**OUR INSTITUTE IS THE FIRST INSTITUTE TO PUBLISH THE TENTATIVE KEY**

Q.NO	OPTION	ANSWER
1	C	<i>Number of electrons emitted versus the kinetic energy</i>
2	B	<i>Time domain plot is converted into frequency domain plot</i>
3	B	<i>frequency of absorption band of the material</i>
4	A	$\rho = 1$ and $\rho = 0$
5	C	<i>The resonance of proton(H^1)are more difficult to observe than those of C^{13}</i>
6	B	<i>Adiabatic process</i>
7	B	<i>Microscopic state</i>
8	B	$\frac{1}{2}$
9	D	<i>(ab, c) and (ac, b)</i>
10	C	<i>Heat capacity</i>
11	C	<i>The direct grounding of the emitter</i>
12	B	h_{re} reverse voltage gain
13	A	$1 + AB ; A/(1 + AB)$
14	C	<i>Thin film</i>
15	A	<i>Whose output is progressively higher for progressively higher input</i>

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16	D	$\frac{hK}{m}$
17	D	a, b and c
18	A	a, b and c only
19	D	$\Delta l = \pm 1$; $\Delta m = \pm 1, 0$
20	B	2,1,0
21	B	0
22	B	$T > T_c$
23	D	<i>The volume of the unitcell of the reciprocal lattice is directly proportional to the volume of unit cell of direct lattice</i>
24	C	(200), (110)
25	D	$\frac{1}{3}$
26	D	$Tds = dU + PdV$
27	D	Particles are bosons
28	D	electron gas in metals
29	C	<i>Macroscopically means each of the systems constituting an ensemble satisfies the same or different macroscopic conditions</i>
30	C	T^3
31	A	(iii) (iv) (ii) (i)
32	B	40.4 mA
33	C	a, b are correct
34	D	Two class B amplifier
35	D	less than 200 pF
36	B	$n = 2$ to $n = 1$
37	C	UV photons, electrons
38	C	Its dipole moment is zero
39	B	Middle infrared
40	A	Increases

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41	C	$-(4xy + 4z^2)\vec{i} - (2x^2 + 6yz)\vec{j} - (3y^2 + 8zx)\vec{k}$
42	C	$\frac{B}{2}(\vec{j}x - \vec{i}y)$
43	B	$\frac{\lambda}{4\pi\epsilon_0} \left[\frac{1 + \sqrt{3}}{2} \right]$
44	A	$I = \frac{\mu_0 q_m}{2L}$
45	C	$\frac{VI}{\pi a^2}$
46	D	Mean square voltage mode
47	C	Both origin and scale
48	A	The sample observation should be dependent
49	A	$0.0002\mu F$
50	A	Kelvin double bridge
51	D	Mirror nuclei
52	C	Nucleus having even neutrons and even protons
53	B	$\frac{e^{-\mu r}}{r}$
54	D	Accurate average masses and binding energy through semi empirical mass formula
55	C	Neutron
56	*	In the reaction $\pi^- + P \rightarrow \pi^0 + \pi$ the charge of π^- meson is not mentioned
57	A	$2.426 \times 10^{-12} m$
58	C	Which is a meta stable nucleus with bound hyperon replaces one of the nucleons
59	A	$5.08 MeV$
60	B	$\frac{1}{9\lambda}$
61	B	0.035
62	B	Spontaneous magnetization vanishes

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63	C	$4.43 \times 10^{-9} \text{Cm}^2$
64	A	Both the statements are correct
65	B	a constant and independent of impurity concentration
66	B	$\frac{\rho r}{3\epsilon_0}$
67	C	2.41
68	C	$\frac{1}{r^3}$ and $\frac{1}{r^4}$
69	B	$\frac{aQ}{a+b}$
70	A	4.5π volts
71	B	independent of co – ordinate system used
72	B	a contravariant vector
73	A	Cyclic group
74	B	$\tan x$
75	C	$4x^2 - 2$
76	B	$\frac{\pi}{\sin m\pi}$
77	B	$\pi\sqrt{2}$
78	B	an abelian group under multiplication
79	C	a tensor of rank 2
80	A	$\frac{1}{12}$
81	D	Force
82	B	The relative velocity of any point at the position of a i^{th} particle is expressed in terms of angular velocity ω as $v_i = \omega \times \vec{r}_i$
83	D	The expression for one dimensional LHO is $m\ddot{x} + Kx = 0$
84	D	$m\ddot{r} - mr\dot{\theta}^2 + mr \sin^2 \theta \ddot{\phi} + kr = 0$

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85	B	Hamiltonian $H = T - V$
86	C	255
87	D	By cooling a liquid under reduced pressure
88	A	Schering Bridge
89	C	fast neutron
90	A	Alcohol thermometer
91	B	b and c
92	C	$F(P, Q) = -(e^Q - 1)^2 \tan p$
93	C	(iv) (iii) (ii) (i)
94	D	$[q_k, F] = \frac{\partial F}{\partial p_k}$
95	C	$\omega_z = \dot{\phi} \cos \theta + \dot{\psi}$
96	A	(iii) (iv) (i) (ii)
97	A	$A = 1/\sqrt{a}$
98	C	(i) and (iii) are correct
99	A	b only is correct
100	C	b only
101	B	0.1 eV
102	C	a, c and d
103	A	$\frac{q^2}{8\pi\epsilon_0 R}$
104	C	$B = 1.67 \times 10^{-10} \sin(3.77 \times 10^6 t - 0.126 x) \vec{k}$
105	A	$\frac{8}{15} \pi a^3 \rho_0$
106	C	A subtractor preceded by two buffer amplifier
107	A	2.5 KHz
108	B	Ionization

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109	B	Auger electron
110	B	Vibration levels
111	*	$\frac{Qt}{4\pi\epsilon_0 r}$. But in the question instead of r^2 it is given as r_2 hence no one is correct
112	A	An extensive variable of system is a macroscopic parameter which describes a system in equilibrium and which has a value equal to the sum of its values in each part of the system
113	C	60 %
114	D	1520 mm of Hg
115	B	$1 \times 10^{-8} \text{ Kg ms}^{-1}$
116	A	$m_0 = 488.4 \text{ MeV}/c^2$
117	A	$[X, [Y, H]] + [Y, [H, X]] + [H, [X, Y]] = 0$
118	D	Hamiltonian, Hamiltonian
119	A	$1.99 \times 10^{-15} \text{ J}$
120	C	$\theta_L = \frac{\theta_C}{2}$
121	B	$+1.6 \times 10^{-19} \text{ coloumb}$
122	B	0^+
123	A	reduces the gain
124	C	CMRR
125	B	$20/1$
126	A	$\Delta\lambda = -\left(\frac{C}{v^2}\right)\Delta v$
127	C	P – branch
128	A	$2.7 \times 10^{-40} \text{ g.cm}^2$
129	B	square root of Absolute Temperature, square root of atomic weight
130	C	3.01 \AA

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131	D	$E + \left(\frac{4\pi}{3}\right)P$
132	B	$a^* = \pi\hat{i} - \frac{\pi}{2}\hat{j}; b^* = \pi\hat{j}$
133	D	$3.95 \times 10^{-29} \text{ Am}^2$
134	C	$5.96 \times 10^{-2} \text{ m}$
135	A	$(a) \rightarrow (p), (q) \quad (b) \rightarrow (p), (r) \quad (c) \rightarrow (p), (s) \quad (d) \rightarrow (p), (r)$
136	A	$\frac{n(n+1)}{2}$ independent components
137	B	$\sqrt{\frac{2}{\pi x}} \sin x$
138	B	$\frac{\begin{bmatrix} 3 \\ 4 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \end{bmatrix}}{2}$
139	A	<i>B and C are necessary conjugate to each other</i>
140	D	<i>Holonomic and Scleronomous with $\vec{r}_i - \vec{r}_j = C_{ij}$</i>
141	B	<i>b and c only</i>
142	C	27^{th}
143	D	<i>without the consent of any state</i>
144	B	<i>Darasuram Temple</i>
145	A	<i>Lakshmanan</i>
146	A	-40°
147	A	<i>Rajasthan</i>
148	B	<i>S Venkatesan</i>
149	A	<i>On 1st April 2010</i>
150	B	<i>Cripps proposal</i>






- Expected cut off is at the last page(In PG TRB we predict cut of mark more appropriately)
- New PG TRB and TNSET batch starts on December-2017**

OUR INSTITUTE CADIDATES SELECTED IN PG TRB & TNSET -2017

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PG TRB SELETED CANDIDATES

ROLL NUMBER	NAME	MARK & RANK	PHOTO
17PG14040356	SATHISHKUMAR M	93 & 3	
17PG02040463	SIVA SANKARI P	90 & 17	
17PG14040664	ARVIND N	93 & 24	
17PG17041037	VINESHKUMAR M	90 & 49	
17PG14040627	SRIDEVI C	81 & 211	
17PG14040617	RAJA V	83 & 281	
17PG15040225	VIJAYAKANTH S	81 & 332	

TNSET SELECTED CANDIDATES

ROLL NUMBER	NAME	PHOTO
31125593	ARVIND N	
31125709	VIJAY BABU	
31125709	SATHISHKUMAR M	

- Expected cut off for POLYTECHNIC TRB 2017 (physics) is **92-115 OUT OF 190**
- **New PG TRB and TNSET batch starts on December-2017**