

PSPCL Previous Paper AE (OT) ELECTRICAL

Roll No.

14

TEST CODE: PPAEEC SIII

Question Paper

Electronics & Communications, General Awareness,
Reasoning and English

Question Booklet No.

1404252

Time Allowed : 2 Hrs.

Max. Marks : 100

DO NOT OPEN THE PAPER SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

INSTRUCTIONS FOR CANDIDATE

1. This Question-Booklet contains 100 Questions on the following :-

Section	Subject	Q. No.	Total Ques.
Part-I	Electronics & Communications	1-60	60
Part-II	General Awareness, Reasoning and English	61-100	40
	Total Questions		100

- There are 16 pages in this Booklet out of which Page No. 1 is for instructions to the candidates. Page Nos. 15 and 16 are meant for Rough Work and page nos. from 2 to 14 contain question of all parts. After opening of the Booklet and before you start answering the questions you must check up this booklet and ensure that it contains all the pages (1-16) and see that no page is missing or repeated. If you find any defect in this booklet, you must get it replaced immediately from the Invigilator within first 10 minutes of start of the Examination.
- You must write you Roll Number in the space provided on the top left had side of Page No. 1 of this Question-Booklet.
- You will be supplied a one-page OMR Answer-Sheet separately by the Invigilator. You must complete all the details at appropriate places in the OMR Answer-sheet carefully, before you actually start answering the questions.
- The instructions as given on the OMR Answer-sheet, must be read carefully by the candidate and action in filling up the desired information in the columns writing a statement and marking the answer to the questions by Pen on Side I and Side-II of the OMR Answer-Sheet should be taken accordingly.
- All questions are compulsory. Each question carries one mark. There is negative marking; $1/4^{\text{th}}$ mark will be deducted for each wrong answer.
- You are required to mark you answers only on the OMR Answer Sheet which has been provided to you separately with **BLACK BALL POINT PEN ONLY**.
- Use of Books, Notes and copying and receiving/giving assistance is not allowed. Further, use of calculator-separate or with watch, Tablets any type of mobile phones, Books, slide rules, foot rules, note books or written notes is also prohibited during the examination. Any candidate who is found either copying or receiving, giving assistance or using unfair means will be disqualified and his/her candidature will accordingly be cancelled.
- The question booklet and OMR Answer Sheet supplied to the candidate must be returned intact to the room invigilator on completion of examination before you leave examination hall. Any candidate trying to tamper, take them away or found in unauthorized possession of booklet or OMR Answer sheet, is liable for cancellation of candidature or any legal action against him/her.

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Electronics & Communications

- Q1) TRIAC is an ac switch which can be made to conduct on :-
 a) both half cycles of an ac voltage b) only positive half cycle
 c) only negative half cycle d) none of the above
- Q2) X.25 protocol is a structured protocol that has :-
 a) 7 layers b) 5 layers
 c) 3 layers d) 2 layers
- Q3) In 802.3 Mac layer protocol frame starts with a preamble which allows the receiver's clock to synchronize with the transmitter's clock. The preamble consist of :-
 a) 2 or 6 bytes b) 7 bytes
 c) 4 bytes d) 1 byte
- Q4) The central limit theorem indicates that the probability density of a sum of N independent random variables tends to approach a :-
 a) Rayleigh distribution as N increases
 b) Gaussian distribution as N increases
 c) Gaussian distribution as N decreases
 d) Uniform distribution as N increases
- Q5) Linear predictive code is widely used in :-
 a) speech and video compression
 b) speech coding to reduce the bandwidth
 c) low bit rate data communication
 d) DPCM system
- Q6) The distance between the two binary codes $U = 100101101$ and $V = 011110100$ is :-
 a) 9 b) 5 c) 6 d) 7
- Q7) In an ac tachometer, the two stator field coils are mounted :-
 a) side by side on a same line
 b) along two parallel lines and opposite to each other
 c) in space quadrate
 d) at an angle of $\pi/3$ between each other

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- Q8) Control systems are generally designed with damping :-
a) less than one
b) greater than one
c) equal to one
d) with any value depending upon system requirement
- Q9) In derivative error compensation the output :-
a) depends on rate of change of actuating signal
b) is dependent on actuating signal
c) is proportional to the double derivative of the actuating signal
d) is directly proportional to the actuating signal
- Q10) In root locus plot, a point on the real axis lies on the locus, if the number of open loop poles plus zeros on real axis to the :-
a) left of the point is odd b) left of the point is even
c) right of the point is odd d) right of the point is even
- Q11) For a stable feedback control system, the phase margin is :-
a) always positive b) always negative
c) may be positive or negative d) always greater than 180°
- Q12) Companding is a technique used to achieve :-
a) uniform quantization b) delta modulation
c) non uniform quantization d) differential quantization
- Q13) Which of the following is not a cyclic code :-
a) Hamming code b) BCH code
c) Rad-solomon code d) Hustman code
- Q14) To design a wide band microwave amplifier one should use :-
a) Klystron b) TWT
c) Magnetron d) None of these
- Q15) An AM broadcast radio transmitter radiates 10 KW power. Percentage modulation is 60%. The power in the carrier is :-
a) 5.00 kw b) 7.69 kw c) 8.47 kw d) 9.17 kw

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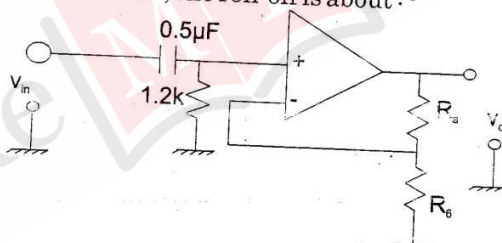
- Q16) Pre-emphasis in FM system involves :-
 a) compression of the modulating signal
 b) expansion of the modulating signal
 c) amplification of lower frequency components of the modulating signal
 d) amplification of higher frequency components of the modulating signal

- Q17) Companding is used :-
 a) to overcome quantization noise in PCM
 b) in PCM transmitter to allow amplitude within the limit of dynamic range of the signal
 c) to protect small signals in PCM
 d) in PCM receiver to overcome impulse noise.

- Q18) The packet size in ATM network is :-
 a) 50 bytes b) 53 bytes c) 57 bytes d) 60 bytes

- Q19) How many non-overlapping channels are available in IEEE 802.11b :-
 a) 3 b) 12 c) 23 d) 40

- Q20) Refer to the given circuit, the roll-off is about :-



- a) -20 db/decade b) -40 db/decade
 c) -60 db/decade d) -80 db/decade
- Q21) For a pencil beam antenna the pattern beam-widths are 50° and 70° in the principal planes. The directivity of the antenna is :-
 a) 8.54 db b) 10.7 db c) 11.79 db d) 12.83 db
- Q22) The capacity of an analog communication channel with 4KHz bandwidth and 15 db SNR is approximately :-
 a) 08 kbps b) 10 kbps c) 16 kbps d) 20 kbps

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- Q39) Indicate which of the following is not a binary code :-
- a) Morse code
 - b) Baudot
 - c) CCITT-2
 - d) ARQ
- Q40) The Hartley Law states that :-
- a) The maximum rate of information transmission depends on the Channel Bandwidth
 - b) The maximum rate of information transmission depends on the depth of modulation
 - c) Redundancy is essential
 - d) only binary code may be used
- Q41) A Doppler Radar operating at 15 GHz is viewing a target moving directly towards it at the speed of 25 m / s. The Doppler frequency shift :-
- a) 2.5 KHz
 - b) 2.4 KHz
 - c) 3 KHz
 - d) 3.5 KHz
- Q42) A rectangular waveguide is 5.1 cm by 2.4 cm (inside dimension). The cut off frequency of the dominant mode is :-
- a) 2 GHz
 - b) 2.94 GHz
 - c) 3 GHz
 - d) 4 GHz
- Q43) The dominant mode in cylindrical waveguide :-
- a) TE_{11}
 - b) TM_{11}
 - c) TE_{10}
 - d) TM_{10}
- Q44) In order to reduce cross sectional dimension, the wave guide to use is :-
- a) circular
 - b) rectangular
 - c) ridged
 - d) flexible
- Q45) A PIN diode is :-
- a) a metal semiconductor point contact diode
 - b) a microwave mixer diode
 - c) often used microwave detector
 - d) suitable for use as a microwave switch
- Q46) Magnetron is type Microwave Tube and Klystron is tubes.
- a) cross field, 'M' type
 - b) cross field, 'O' type
 - c) cross field, 'MO' type
 - d) None of these

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- Q54) A certain SRAM has CS = 0, WE = 0 and OE = 1. In which of the following mode, this SRAM is operating :-
- a) Read
 - b) Write
 - c) Stand By
 - d) None of the above
- Q55) Direction Flag is used with :-
- a) String Instruction
 - b) Stack Instruction
 - c) Arithmetic Instruction
 - d) Branch Instruction
- Q56) To read or write a complete word from / to the memory in 8086 microprocessor, and if it is located at an even address, the number of Read or Write cycles required is :-
- a) One only
 - b) Two
 - c) Three
 - d) Four
- Q57) Hexadecimal equivalent of the decimal number 256_{10} is :-
- a) 102_{16}
 - b) 100_{16}
 - c) 200_{16}
 - d) None of the above
- Q58) The decimal equivalent of a Hexadecimal no. $(F8E6)_{16}$ is :-
- a) $(63,718)_{10}$
 - b) $(67,318)_{10}$
 - c) $(37,718)_{10}$
 - d) None of the above
- Q59) A half adder can be constructed from :-
- a) Two XNOR gates only
 - b) One XOR gate and one OR gate with their output connected in parallel
 - c) One XOR gate and one "AND" gate with their input connected in parallel
 - d) None of the above
- Q60) Electrostatic type instruments are primarily used as :-
- a) Ammeter
 - b) Voltmeter
 - c) Wattmeter
 - d) Ohmmeter

d) Konark

d) 1883

d) Leakage of gas

d) Nepal

d) Sports

d) R.K. Narayan

d) Sriharikota

d) Vatican City State

Q69) In India, Teacher's Day is celebrated on :-

- Q70) People from which state celebrate their harvest around Makar Sakranti:-

- Q71) Complete the number series by choosing the correct alternative :-
Series: 1, 3, 4, 7, 11, 18

- Q72) The numbers in the following squares are filled on the basis of some rule or analog. Complete the blank square by choosing the correct number from the alternatives :- _____

a) 2 b) 3 c) 66 d) 64

- Q73) If in a code GATE is written as ICVG, how can RAT will be written in that code :-

- Q74) Doctor : Diagnosis :: Judge : ?

- Q75) Choose the odd man out :-

- Q76) If in certain code the word HAT is written as 29, what will be the code for RAT?

- a) 40 b) 39 c) 42 d) 37

- Q86) Honesty is best policy.
a) a b) an c) the d) no article
- Q87) Here is rupee for you.
a) a b) an c) the d) no article
- Q88) She is very fond me.
a) on b) of c) in d) the
- Q89) I am unanswerable my officer.
a) with b) into c) of d) to
- Q90) The car ran an old dog.
a) on b) into c) over d) up

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Direction (Q. 91 – 95) : Out of the four alternatives choose the word / phrase that is most nearly the same in meaning as the given word :

Q91) FAITHFUL

- a) disobedient b) loyal c) lawless d) rebellious

Q92) REPLY

- a) answer b) ask c) inquire d) examine

Q93) SOIL

- a) sky b) village c) earth d) sea

Q94) TEACH

- a) guide b) follow c) learn d) imbibe

Q95) UNEASY

- a) disturbed b) calm c) content d) quiet

Direction (Q 96 – 100) : Out of the four alternatives choose the word that is most nearly the opposite to the given word :

Q96) HAPPY

- a) serious b) silent c) bored d) sad

Q97) SMOOTH

- a) risky b) rough c) dangerous d) fatal

Q98) ARRIVAL

- a) return b) coming c) departure d) meet

Q99) REWARD

- a) harmless b) punishment c) coward d) rule

Q100) CHEAP

- a) costly b) less c) enough d) sufficient

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S.No.	Answers	S.No.	Answers	S.No.	Answers	S.No.	Answers
1	A	26	A	51	C	76	B
2	C	27	A	52	B	77	D
3	B	28	B	53	D	78	C
4	B	29	C	54	B	79	D
5	B	30	A	55	A	80	C
6	C	31	D	56	A	81	B
7	C	32	A	57	B	82	D
8	A	33	A	58	A	83	A
9	A	34	D	59	C	84	C
10	C	35	A	60	B	85	A
11	A	36	B	61	D	86	C
12	C	37	C	62	C	87	A
13	D	38	C	63	D	88	B
14	B	39	A	64	B	89	D
15	C	40	A	65	C	90	C
16	D	41	A	66	C	91	B
17	C	42	B	67	C	92	A
18	B	43	A	68	D	93	C
19	A	44	C	69	C	94	A
20	A	45	D	70	D	95	A
21	C	46	B	71	C	96	D
22	C	47	C	72	D	97	B
23	D	48	D	73	C	98	C
24	B	49	A	74	D	99	B
25	D	50	B	75	C	100	A