K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I**	**Class:** S.Y. B.Tech.
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment: 23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

Assignment-I								
SET	Roll No.	Roll No.	Roll No.	Roll No.	Roll No.	Roll No.	Roll No.	Roll No.
SET-1	1	11	21	31	41	51	61	71
SET-2	2	12	22	32	42	52	62	72
SET-3	3	13	23	33	43	53	63	73
SET-4	4	14	24	34	44	54	64	74
SET-5	5	15	25	35	45	55	65	75
SET-6	6	16	26	36	46	56	66	76
SET-7	7	17	27	37	47	57	67	77
SET-8	8	18	28	38	48	58	68	78
SET-9	9	19	29	39	49	59	69	79
SET-10	10	20	30	40	50	60	70	80

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-1)**	**Class:** S.Y. B.Tech.
Roll No._____, Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment: 23/04/2024		**Due Date: 27/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 7 white and 5 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.4 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{1}{3}\right)^x \frac{2}{3}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases} xe^{-x},\ x>0 \\ 0,\ otherwise \end{cases}$

Find i) M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{e^t-1}{t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	-3	-2	-1	0	1	2	3
P(X=x)	0.05	0.10	0.30	0	0.30	0.15	0.10

6) An unbiased coin is thrown 10 times. Find the probability of getting 5 exactly Heads, at least 5 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/500 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) If $dF=kx^2e^{-x}dx,\ x\geq 0$ Find k, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-2)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 8 white and 5 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.4 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{1}{4}\right)^x \frac{3}{4}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{4}e^{-\frac{x}{2}}, & x>0\\ 0, & otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-2t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	0	1	2	3	4	5	6
P(X=x)	0.1	0.2	0.05	0.15	0.25	0.2	0.05

6) An unbiased coin is thrown 10 times. Find the probability of getting 5 exactly Heads, at least 5 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/400 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) The cumulative distribution function of a random variable(Cdf) of a r.v. X is $F(x)=1-(1-x)e^{-x},\ x>0$. Find the p.d.f. of X, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-3)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 9 white and 5 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.4 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{1}{5}\right)^x \frac{4}{5}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{9}e^{-\frac{x}{3}}, & x>0\\ 0, & otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-3t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	-3	-2	-1	0	1	2	3
P(X=x)	0.05	0.10	0.30	0	0.30	0.15	0.10

6) An unbiased coin is thrown 9 times. Find the probability of getting 4 exactly Heads, at least 4 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/600 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) If $dF=kx^2e^{-x}dx,\ x\geq 0$ Find k, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-4)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 10 white and 5 red balls, three balls are drawn at random from this urn.
i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.4 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{1}{6}\right)^x \frac{5}{6}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{16}e^{-\frac{x}{4}},\ x>0\\ 0,\ otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-4t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	0	1	2	3	4	5	6
P(X=x)	0.1	0.2	0.05	0.15	0.25	0.2	0.05

6) An unbiased coin is thrown 11 times. Find the probability of getting 5 exactly Heads, at least 5 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/700 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) The cumulative distribution function of a random variable(Cdf) of a r.v. X is $F(x)=1-(1-x)e^{-x},\ x>0$. Find the p.d.f. of X, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-5)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 11 white and 6 red balls, three balls are drawn at random from this urn.
i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.5 and each red ball Rs.7. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{1}{7}\right)^x \frac{6}{7}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{25}e^{-\frac{x}{5}}, & x>0\\ 0, & otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-5t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	-3	-2	-1	0	1	2	3
P(X=x)	0.05	0.10	0.30	0	0.30	0.15	0.10

6) An unbiased coin is thrown 12 times. Find the probability of getting 4 exactly Heads, at least 4 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/300 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) If $dF=kx^2e^{-x}dx,\ x\geq 0$ Find k, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-6)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 7 white and 6 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.5 and each red ball Rs.7. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{2}{3}\right)^x \frac{1}{3}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{36}e^{-\frac{x}{6}}, & x>0\\ 0, & otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-6t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	0	1	2	3	4	5	6
P(X=x)	0.1	0.2	0.05	0.15	0.25	0.2	0.05

6) An unbiased coin is thrown 8 times. Find the probability of getting 2 exactly Heads, at least 3 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/200 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) The cumulative distribution function of a random variable(Cdf) of a r.v. X is $F(x)=1-(1-x)e^{-x},\ x>0$. Find the p.d.f. of X, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-7)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 5 white and 8 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.3 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{3}{5}\right)^x \frac{2}{5}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{49}e^{-\frac{x}{7}}, & x>0\\ 0, & otherwise\end{cases}$

Find i) M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-7t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	-3	-2	-1	0	1	2	3
P(X=x)	0.05	0.10	0.30	0	0.30	0.15	0.10

6) An unbiased coin is thrown 9 times. Find the probability of getting 5 exactly Heads, at least 5 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/800 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) Assuming that the diameters of 1000 brass plugs taken consecutively from machine form a normal distribution with mean 0.7515 cm and standard deviation 0.0020 cm. How many of the plugs are likely to be approved if the acceptable diameter is 0.752 ± 0.004 cm?

(A = 0.4599 for Z = 1.75 and A = 0.4878 for Z = 2.25)

10) The cumulative distribution function of a random variable(Cdf) of a r.v. X is $F(x)=1-(1-x)e^{-x},\ x>0$. Find the p.d.f. of X, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-8)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 8 white and 6 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.7 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{3}{7}\right)^x \frac{4}{7}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{81}e^{-\frac{x}{9}}, & x>0\\ 0, & otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-9t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	0	1	2	3	4	5	6
P(X=x)	0.1	0.2	0.05	0.15	0.25	0.2	0.05

6) An unbiased coin is thrown 13 times. Find the probability of getting 4 exactly Heads, at least 3 Heads.

7) The mean and variance of binomial distribution are 4 and 1.2 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/900 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) In a certain examination test, 2000 students appeared in a subject of statistics. Average marks obtained were 50% with standard deviation 5%. How many students do you expect to obtain more than 60% of marks, supposing that marks are distributed normally? (A = 0.44772 for Z = 2 and A = 0.4049 for Z = 1.31)

10) If $dF=kx^2e^{-x}dx,\ x\geq 0$ Find k, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-9)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:23/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 10 white and 6 red balls, three balls are drawn at random from this urn.
i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.8 and each red ball Rs.3. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{4}{9}\right)^x \frac{5}{9}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases}\frac{x}{100}e^{-\frac{x}{10}}, & x>0\\ 0, & otherwise\end{cases}$

Find i)M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-10t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E(X), E(X^2), V(X), E(3X-2) and V(1-2x)

X	1	2	3	4	5	6	7	8
P(X=x)	0.08	0.12	0.19	0.24	0.16	0.10	0.07	0.04

6) An unbiased coin is thrown 11 times. Find the probability of getting 4 exactly Heads, at least 8 Heads.

7) The mean and variance of binomial distribution are 21 and 12 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/410 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) In a certain city 4000 tube lights are installed. If the lamps have average life of 1500 burning hours with standard deviation 100 hours. Assuming normal distribution (i) How many lamps will fail in first 1400 hours (ii) How many lamps will last beyond 1600 hours (A = 0.3413 for Z = 1 and A = 0.4049 for Z = 1.31)

10) The cumulative distribution function of a random variable(Cdf) of a r.v. X is $F(x)=1-(1-x)e^{-x},\ x>0$. Find the p.d.f. of X, mean and variance.

K. K. Wagh Institute of Engineering Education & Research, Nashik-3

A. Y.: 2023 – 2024	**Assignment - I (SET-10)**	**Class:** S.Y. B.Tech.
Roll No._____ Div-		BRANCH: COMP/IT
Subject: Applied Mathematics-III		**Unit No.: III & IV**
Date of Assignment:22/04/2024		**Due Date: 29/04/2024**
Subject Teacher: Prof. D. A. Kokande		

1) An urn containing 7 white and 5 red balls, three balls are drawn at random from this urn. i) Compute the expectation of number of white balls drawn ii) If each white ball drawn carries a reward Rs.4 and each red ball Rs.6. Find the expected reward of the draw.

2) Find E(X), E(X^2) and variance of the following p.m.f. $P(x)=\left(\frac{1}{3}\right)^x \frac{2}{3}, x=0,1,2,\ldots,\ q=1-p$

3) Let X be a r.v. with p.d.f. $f(x)=\begin{cases} xe^{-x}, & x>0 \\ 0, & otherwise \end{cases}$

Find i) M.G.F. ii) hence find E(X), E(X^2) and variance.

4) If the moment generating function of x is $M_x(t)=\left(\frac{1}{1-8t}\right)^2$ Find E(X), E(X^2) and variance

5) The probability distribution of a r.v. x is given below, E($2X\pm3$), E(X^2), V(X), E$(3X-2)^2$ and V(1-2x)

X	-3	-2	-1	0	1	2	3
P(X=x)	0.05	0.10	0.30	0	0.30	0.15	0.10

6) An unbiased coin is thrown 9 times. Find the probability of getting 3 exactly Heads, at least 6 Heads.

7) The mean and variance of binomial distribution are 5 and 4 find $P(r>2)$ and $P(r=5)$

8) In a certain factory turning out razor blades, there is a small chance of 1/510 for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective and two defective blades, in a consignment of 10,000 packets.

9) The mean weight of 500 students is 63 kgs and the standard deviation is 8 kgs. Assuming that the weights are normally distributed, find how many students weigh 52 kgs ? The weights are recorded to the nearest kg. (A = 0.4251 for Z = 1.44 and A = 0.4049 for Z = 1.31)

10) If $dF=kx^2e^{-x}dx,\ x\geq0$ Find k, mean and variance.

Table for normal distribution.

Table 6.1

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5259
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7703	0.7734	0.7764	0.7793	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8906	0.8925	0.8943	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9494	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9871	0.9678	0.9686	0.9693	0.9699	0.9708
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9783	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9634	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.98686	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9809	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9988	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9998	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9898

In each row and each column 0.5 to be subtracted.